REPUBLIC OF CYPRUS

The Third Five-Year Plan

(1972—1976)

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Foreword

THE implementation of the Second Five-Year Plan, 1967–1971, has met with considerable success. Not only has the rate of economic growth been maintained and accelerated, but also most of the other targets and objectives set have been attained and even surpassed.

The Third Plan is wider in scope than the previous Plans. Since development is a multi-dimensional concept comprising economic, social, physical, institutional, etc., aspects, an effort has been made to incorporate in the Plan objectives and targets in respect of these elements and to provide for the measures necessary for their attainment.

The elaboration and finalization of a Development Plan involves an enormous volume of work. It necessitates scientific study, analysis and assessment of the potentialities and prospects of the economy. However, more work, much sweat and labour will be needed for its implementation. No one can of course foresee the future which is liable to the influence of unstable and unpredictable factors. Yet, the advance forward becomes smoother and speedier and the risk of failure and retrogression is reduced if the path to be followed is surveyed and carved in advance. And this is the purpose of the Development Plan. It constitutes the guideline and the compass which help us continuously check and correct our route so as to avoid the reefs. Bottlenecks and difficulties there will be and perhaps many, but there are also many prerequisites which could ensure the success of the Plan. We have a hardworking, progressive and adaptable population, a class of entrepreneurs which has so much to its credit, we have the rich experience of the past twelve years, we have available the infrastructure created in the meantime. With these preconditions and so equipped we can look to the future with optimism.

Concluding this brief preface, it would be an omission on my part if I did not express my sincere thanks and appreciation to all those who have in any way contributed to the preparation of the present Plan. As in the case of the previous Plans, Government Ministries and Departments and Consultative Committees, on which the private sector was represented, have contributed to this task by providing data and making proposals, suggestions or comments. Once again, the main burden of the work was shouldered by the small staff of the Planning Bureau working under the direction and guidance of Dr. I. Aristidou, Chief Planning Officer and Officer-in-charge of the Bureau.

12-6-73

A. C. PATSALIDES,
Minister of Finance,
Chairman, Planning Committee.

THE THIRD FIVE-YEAR PLAN, 1972–1976

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CYPRUS CURRENCY AND WEIGHTS AND MEASURES USED IN TEXT

CURRENCY :

1 Cyprus pound (£) = 1,000 mils.

The par value as agreed with I.M.F. on 20th November, 1967, is:—

Cyprus pound 1 = 2.13281 grams of fine gold.

On the basis of the official price of gold being U.S. $ 42.22222 per oz.

Cyprus pound 1 = U.S. $ 2.8952 (1)

WEIGHTS AND MEASURES :

The equivalents among the various systems used are indicated below:—

Unit	Equivalents		
	Domestic	British	Metric
Length :			
1 Foot		12 inches	0.3048 meters
1 Meter		39.370 inches	
1 Mile		5,280 feet	1,609 meters
Area :			
1 Donum (Scala)	4 evleks	14,400 sq. feet (0.3306 acres)	1,337.8 sq. meters
Volume :			
1 Oke (liquids) ..		1.125 quarts	1.278 litres
Weight :			
1 Oke (weight) ..	400 drams	2.8 lbs.	1.27 kilograms
1 Ton	800 okes (weight)	2,240.0 lbs.	1.016 metric tons

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(1) With effect from 9th July, 1973, the exchange rates may no longer be confined within the margins hitherto observed.

PART I

A Decade of Planned Development

CHAPTER 1

DEVELOPMENT PLANNING IN CYPRUS

1. Introduction

Ever since Independence, the Government of the Republic has resorted to development planning in an effort to promote the attainment of higher economic and social goals. Apart from the inadequacy of the market mechanism to effect the desired structural changes and to ensure a sustained rate of growth, which is often the case in developing countries, in the particular circumstances of Cyprus there were added reasons necessitating a planned approach to the problems of development. The small size of the economy and its heavy dependence on international trade, the structural weaknesses inherited from the past, the relatively poor endowment of the Island with natural resources and the need to promote social development in general called for a rationalization and acceleration of the development effort through planning.

The Government of the Republic took over in 1960 an economy with all the symptoms of underdevelopment. Stagnation of economic activity, a high rate of unemployment and emigration, lack of confidence in the future of the economy and capital outflow, an underdeveloped agricultural and an insignificant industrial sector, inadequacy of basic infrastructure—these were in brief the main features of the Cyprus economy at the time.

2. The First Five-Year Plan, 1962–1966

As mentioned in the Second Plan document, one of the first pre-occupations of the Government on the morrow of Independence was to revive economic activity and to lay the foundations for future development, thus putting an end to the economic uncertainty which prevailed and halting the flight of capital.

A planning machinery was established as a permanent feature of the Governmental set-up. In August 1961, the First Five-Year Development Plan was enunciated covering the period 1962–1966. The Plan was launched during a period of economic stagnation and its underlying philosophy was therefore twofold : firstly, to restore economic growth by mobilizing unemployed resources ; and, secondly, to provide the necessary infrastructure and, thus, eventually help the process of diversification of the economy with a view to removing the causes of economic instability.

The First Plan constituted the first real programming attempt in Cyprus. It was limited in scope and concentrated mainly in the economic sphere. Its coverage was mainly confined to the public sector and a series of targets of development expenditure were set.

3. The Second Five-Year Plan, 1967–1971

When the Second Plan was launched in 1967 the situation was radically different from what it was in 1961. The symptoms of economic stagnation had by then been removed, unemployment had been reduced to very low levels, emigration had been checked, confidence in the future of the economy had been restored and capital began to move back, while a sizeable programme of infrastructural works had been completed. The economic progress recorded during the period 1962–1966 necessitated the adoption of a new approach in the Second Plan, based on a more detailed analysis of the problems of development.

The basic philosophy of the Second Plan was to speed up the process of growth, to promote the restructuring of the economy, and through growth to lay gradually the foundations for increased and general welfare. It laid more emphasis on the social and welfare aspects of development and sought to provide solutions to the problems of spreading the benefits of economic growth among the various income groups and among the various geographical areas.

The Second Plan was wider in scope compared with the First Plan. Its coverage was extended to encompass both the public and the private sectors of the economy. It laid down detailed targets for the main economic magnitudes and defined more clearly the anticipated role of the two sectors over the Plan period. The weight given in the Plan to private institutions and to private entrepreneurship made the involvement of the private sector in the planning process all the more necessary. The Government incorporated more firmly in its planning machinery the institution of Consultative Committees, composed of Government officials and planners, representatives of various organizations and other independent experts. These Committees participated in the formulation of the various components of the Plan and made suggestions on ways and means to attain the Plan targets.

In general, it may be said that while the First Plan was single-dimensional in its coverage and was concerned mainly with the economic aspects of development and the pressing economic issues of the time, the Second Plan was basically two-dimensional. The dual role of development, firstly, as an economic goal and, secondly, as a dynamic process for the attainment of a more equitable distribution of economic welfare was recognized. The Plan also marked the beginning of a conscious effort on the part of Government to bring within the ambit of planning new elements such as the institutional environment, legal and administrative, the regional and physical development aspects, etc.

4. The Third Five-Year Plan, 1972–1976.

The Third Plan is still wider in scope though, as in the case of the previous two Plans, its techniques will continue to be indicative and Government's economic weapons will continue to be persuasive rather than compulsive.

The economic progress of the preceding decade as well as the studies undertaken and the experience accumulated in the meantime now permit the elaboration of a more complete planning exercise encompassing more dimensions of development. Development is a multi-dimensional concept, —economic, social, administrative, physical, legal, institutional, etc. Ideally, a five-year plan should incorporate objectives and targets for all these elements and should provide for the means necessary to attain these objectives as a consistent and coherent whole on a long-term and a medium-term basis. Staff and other limitations have not permitted the elaboration of such a planning exercise. However, a great deal of work has been done and incorporated in the Plan on such aspects of development as the economic, social, physical and institutional environment. The need for certain administrative and legal reforms has been touched upon, and when the work which has already been commissioned in these fields is completed the necessary adjustments will be made. It may, thus, be concluded that the Third Plan has paved the way for a more comprehensive planning exercise at a future, more opportune time, which would encompass all aspects of development to which effort should ideally be directed.

The association of Cyprus with E.E.C. and the envisaged future reduction or elimination of trade barriers will lead to increased competition both at home and abroad. The maintenance and improvement of the competitive position of Cyprus's goods and services has, therefore, been accorded heavy emphasis in the Plan. In comparison with the Second, the Third Plan reflects a more definite commitment to the need for speeding up the restructuring and modernization process. The drive for efficiency becomes all the more urgent since the economy will be gradually exposed to stronger foreign competition, which can only be withstood by a more competitive economy. Modernization and competitiveness are the basic ideas permeating the policy measures in all sectors. The Plan incorporates projects, programmes and policies which in the last analysis are designed to generate external economies and economies of scale and to increase productivity and reduce diseconomies of any kind. It envisages institutional reforms, which aim to stimulate competition and eliminate distortions in the price mechanism, which in turn will induce a better allocation of resources, encourage specialization and effect a reduction in production costs.

The rapid growth of the economy during the past decade now permits added emphasis to be placed on the objective of a continuously rising standard of living and the improvement of social services in general. In the Third Plan these ultimate goals of economic development are accorded a more prominent place due regard being also had to the need for maintaining those conditions which ensure unimpeded and rapid economic growth.

Finally, the Third Plan incorporates the first real attempt at physical and spatial planning. With the preparation of an Island Physical Plan and Town Plans for the main towns and the enactment of the relevant legislation, the Third Plan period is anticipated to witness a concerted effort towards co-ordinated physical development and towards a new approach to the problems of regional and rural development. The urgent need to avert the consequences of haphazard physical development, as well as the need to exploit the resources of the country in a rational manner and to spread the benefits of development to all parts of the Island underline the importance of this fresh dimension to the planning exercise.

CHAPTER 2

PROGRESS MADE IN THE ATTAINMENT OF LONGER-TERM OBJECTIVES DURING THE PERIOD 1961–1971

1. Introduction

The Third Five-Year Plan is basically a continuation of the economic and social development effort which started immediately after Independence and assumed a more concrete form in the Second Plan. Five-year plans consist of medium-term programmes, the ultimate purpose of which is to promote the achievement of longer-term objectives and targets. In the case of Cyprus, the longer-term objectives, as these were set out in the Second Plan, can be summarized as follows :—(*a*) full utilization of the productive resources of the Island ; (*b*) improvement of the social services ; (*c*) attainment of a sound balance of payments position ; and (*d*) balanced regional development.

The attainment of these objectives is not of course possible within the narrow span of a five-year plan. The achievement of the longer-term objectives and the evaluation of the results of the development policy require a much longer period. However, now that the first development decade, covering two five-year plans, has elapsed, it is opportune that an account should be taken of the progress made during these years against the background of the above longer-term objectives.

2. Overall and Sectoral Growth

The attainment of the objective for the full utilization of the productive resources, as indeed the attainment of all longer-term objectives, necessitates the maintenance of conditions enabling a high rate of growth of production. The utilization of the productive resources to the maximum possible extent has as a precondition and as a concomitant the existence of an uninterrupted high rate of growth of the economy. Despite the internal anomaly, as Table 1 shows, the period under review has witnessed spectacular economic growth.

The growth targets set have been attained and even surpassed. Gross Domestic Product at constant 1970 factor cost increased from £114.6 mln. in 1961 to £226.9 mln. in 1971, i.e. at an annual rate of 7.1%. During the period 1962–1966 the annual rate of growth was around 5.9%, whereas during the Second Plan the rate increased to about 8.3%. At the same time, the Gross National Product at constant 1970 market prices increased from £128.3 mln. in 1961 to £251.4 mln. in 1971, i.e. at an annual rate of about about 7.0%.

TABLE 1 **Gross Domestic Product and Gross National Product, 1961–1971**
(*£mln.*)

	1961	1966	1971	Annual Rate of Growth (%)		
				1962–1966	1967–1971	1962–1971
1. GDP at Current Factor Cost	93.6	137.8	232.7	8.0	11.0	9.5
2. GDP at Constant 1970 Factor Cost	114.6	152.4	226.9	5.9	8.3	7.1
3. GNP at Current Market Prices	106.8	153.8	259.6	7.6	11.0	9.3
4. GNP at Constant 1970 Market Prices	128.3	171.3	251.4	6.0	8.0	7.0

Source : Department of Statistics and Research, Planning Bureau.

Rapid expansion during a certain period of time is significant for future development if it creates at the same time the prerequisites for future sustained growth. This condition will be satisfied if the expansion of economic activity which takes place is generated through the most productive sectors of the economy, through modernization of the productive capacity and through diversification of production. At the time of Independence the production pattern was unsatisfactory. The heavy dependence of the economy on primary sectors meant that the economy was extremely vulnerable to uncontrollable factors influencing both production and foreign trade. The development of the construction sector did little to expand the productive capacity of the economy. As regards the services sectors, their development was largely the result of the operation of military bases.

During the past decade the productive capacity of the most important sectors of the economy has been strengthened and there are clear signs of diversification of production. As it can be seen from Table 2, during the period 1961–1971 value added in the primary sectors increased by 69.3%, in the secondary sectors by 112.3% and in the tertiary sectors (services) by 109.1%.

Industrial Origin of Gross Domestic Product, 1961–1971

(At Constant 1970 Factor Cost)

TABLE 2

	£mln.			Share (%)			Annual Rate of Growth (%)		
	1961	1966	1971	1961	1966	1971	1962–1966	1967–1971	1962–1971
Primary	**33.9**	**41.2**	**57.4**	**29.6**	**27.1**	**25.3**	**4.0**	**6.9**	**5.4**
Agriculture, Forestry, Fishing and Hunting	22.4	29.2	44.3	19.6	19.2	19.5	5.8	8.7	7.1
Mining and Quarrying	11.5	12.0	13.1	10.0	7.9	5.8	0.8	1.8	1.3
Secondary	**23.5**	**31.2**	**49.9**	**20.5**	**20.4**	**22.0**	**5.8**	**9.8**	**7.8**
Manufacturing ..	12.3	17.3	26.9	10.7	11.3	11.9	7.1	9.2	8.1
Construction	9.5	11.2	18.4	8.3	7.3	8.1	3.3	10.4	6.8
Electricity, Gas, Water and Sanitary Services	1.7	2.7	4.6	1.5	1.8	2.0	9.7	11.3	10.5
Tertiary	**57.2**	**80.0**	**119.6**	**49.9**	**52.5**	**52.7**	**6.9**	**8.4**	**7.7**
Transportation, Storage and Communication	10.0	12.9	20.2	8.7	8.5	8.9	5.2	9.4	7.2
Wholesale and Retail Trade	13.8	22.8	35.7	12.0	15.0	15.7	10.5	9.4	10.0
Banking, Insurance and Real Estate ..	2.3	6.1	11.6	2.0	4.0	5.1	21.5	13.7	17.6
Ownership of Dwellings	11.8	15.0	16.6	10.3	9.8	7.3	4.9	2.0	3.5
Public Administration and Defence ..	5.7	8.7	13.3	5.0	5.7	5.9	8.8	8.9	8.8
Services	13.6	14.5	22.2	11.9	9.5	9.8	1.3	8.9	5.0
Total	**114.6**	**152.4**	**226.9**	**100.0**	**100.0**	**100.0**	**5.9**	**8.3**	**7.1**

Source : Planning Bureau.

Primary Sectors : Although the agricultural value added has almost doubled, the share of the primary sectors in Gross Domestic Product has been steadily on the decline as a result of the more rapid expansion of the secondary and tertiary sectors of production. This is an important development in the sense that other vital sectors like manufacturing (secondary) and tourism (tertiary), which, together with agriculture, have been planned to become the main pillars on which economic development will be built, have emerged to be among the most dynamic sectors. On the other hand, the period under review has witnessed the declining importance of the mining sector, the basic problems of which are discussed in the relevant Chapter.

Rapid growth, diversification and modernization characterize developments in the broad agricultural sector during the past decade. Between 1961 and 1971 real agricultural value added increased by 97.8%. The increase during the period 1950–1961 was only about 37%. This spectacular expansion of agricultural value added and, in consequence, of farm incomes during the post-Independence period has to a large extent been made possible through the attention paid to this sector in the five-year plans. The aim was to increase production and productivity, to diversify and restructure cultivations and other activities and to regulate and promote the marketing of main agricultural products. Heavy emphasis was placed on intensive cultivation and on investments which would yield high, quick and sustained returns. This entailed substantial expenditure on the conservation, development and proper use of water resources with a consequent expansion of irrigated land. During the two five-year plans 19 large dams of a total capacity of more than 32,000 mln. cu.m. were constructed. During the same period 11 major and 18 minor recharge dams of a total capacity of about 8,300 mln. cu. m. and about 1,200 mln. cu. m., respectively, were completed. As a result of these major and minor irrigation works and the activities of the private sector irrigated land increased by 88,000 donums, i.e. from 214,000 donums in 1961 to 302,000 donums in 1971.

Significant progress has also been made in the field of livestock production. As a result, imports of animal products have been checked and Cyprus has become self-sufficient in eggs, poultry meat and pork.

The importance attached to the development of agriculture, including the development of water resources, may be judged from the fact that during the period of the two five-year plans a sum totalling £28.4 mln. or about 40% of the realized Development Budget expenditure was spent on agricultural and water development projects and programmes. Such projects and programmes included land use improvement, the promotion of mixed farming, tree planting and improvement, the encouragement of the cultivation of vegetables and other crops, plant protection, improvement of the use of water, fertilizer use, machinery and other means of production, the provision of agricultural credit, agricultural research, the introduction of improved breeds of animals, the expansion and improvement of the veterinary services, the development of forestry and fisheries and the development and conservation of water resources. The common policy behind all these projects and programmes was to effect improvements and make the most rational use of agricultural resources and to expand output and increase productivity.

Secondary Sectors : These sectors, comprising manufacturing, construction and electricity generation, have experienced the most rapid rate of growth during the period 1962–1971. This is a sign of the gradual restructuring of the economy. Manufacturing value added increased by almost 119%. Both manufacturing output and exports have been diversified and expanded substantially, while productivity has been rising at a quick pace. The aim of both Plans in the field of industrial development was to bring about those institutional changes and to create those favourable conditions which would encourage and promote private initiative. This was pursued through the prudent use of the tariff, through which protection was given to viable industries, the execution of the necessary infrastructural works which would create external economies, the establishment of industrial estates and the Development Bank, the carrying out of studies for the identification of industrial opportunities, the promotion of certain basic industrial units, the introduction of fiscal and other incentives, the training and specialization of manpower, etc.

Likewise, the construction sector, especially during the Second Plan period, has expanded at a fast pace. Both the public and the private sectors have contributed to this expansion, which has enabled the economy to equip itself with additional productive capacity, since more than 50% of fixed investment is of a construction nature. Although there is still scope for further improvements, the private construction sector has been modernized and strengthened so as to be in a position to undertake larger projects.

Finally, with the completion and expansion of the Moni Power Station the production of electricity increased rapidly. The Cyprus Electricity Authority increased its productive capacity from 70 MW in 1960 to 177 MW in 1971 and has thus been able to meet the continuously growing demand for electricity.

Tertiary Sectors : Ever since the Second World War the Cyprus economy has been characterized by the existence of a strong tertiary sector. During the post-Independence period, however, the rapid expansion of this sector has been accompanied by some structural change, especially following the tremendous expansion of the tourist sector, the modernization and expansion of transport and communications, and the improvement of social services, the resultant value added of which is reflected in the broad services sector. In the following paragraphs developments in the tourist and transport and communication sectors are outlined, the progress with regard to social services being discussed in other parts of this Chapter.

The number of tourists visiting the Island increased from 40,140 in 1961 to 178,598 in 1971, i.e. by four and a half times, while tourist receipts are estimated to have increased from about £3 mln. in 1961 to £13.6 mln. in 1971. The tourist development programme in the five-year plans included the supply of long-term credit at low interest rates to private entrepreneurs for the purpose of improving and extending existing hotels and erecting new hotels. Two basic tourist projects (the Hilton Hotel and the " Golden Sands " tourist complex at Famagusta) were undertaken by Government. In order to secure trained personnel for the tourist and catering industry, hotel training schools were established and scholarships were granted to Cypriots for studies at hotel training schools abroad. The establishment of tourist offices in a number of countries, tourist promotion and publicity, and the development of air communications with the main sources of traffic in Europe have made an appreciable contribution to tourist expansion. Furthermore, the tourist development plan included the duty-free importation of certain categories of hotel furniture and equipment, the erection of tourist pavillions and the training of tourist guides. In addition, state land has been made available on long lease terms and at low rentals to facilitate the erection of hotels and tourist establishments. Finally, for the more effective management of the tourist development programme the Cyprus Tourist Organization was established.

As far as telecommunications are concerned, there has been a marked increase in the demand for more and better telecommunication services, emanating from the expansion of economic activity and the improvement in the standard of living. To meet this demand the Cyprus Telecommunications Authority installed 27,900 new direct telephone lines during the period of the two five-year plans. At the same time the " telex " system was introduced to facilitate the business community, communications with other countries were improved by increasing the number of circuits with certain neighbouring countries, introducing the V.H.F. system and improving existing services through such systems as the tropospheric scatter. Towards the end of the period, the automatic trunk dialling system was introduced and satellite stations were established in order to improve and expand the telephone network.

At the same time the road network has been improved considerably. While in 1961 there were 1,462 miles of asphalted roads the total length of such roads reached 2,258 miles by the end of 1971. With a view to serving better and more efficiently passenger traffic and facilitating the movement of goods from and to the Island, new terminal buildings have been erected at the Nicosia International Airport, modern navigational aids have been installed, the Famagusta port has been extended and suitably equipped and improvements have been made to the small ports of Kyrenia and Paphos. In the meantime, work has commenced on the extension of the main runway of the Nicosia Airport and on the construction of ports at Limassol and Larnaca.

Finally, the postal services have been improved through the establishment of new district post offices and branches and the establishment of more postal agencies. The home delivery of mail has been extended and home delivery of registered letters and parcels has been introduced in all towns.

3. Human Resource Development and Utilization

The above brief review of overall and sectoral developments during the period of the first two five-year plans indicates that a decisive leap forward has been made towards a fuller utilization of the Island's productive resources. This is particularly true of the human factor. As mentioned elsewhere, at the time of Independence the economy was characterized by a high rate of unemployment, underemployment, mainly concentrated in agriculture, and emigration ; all these symptoms of economic stagnation have since been removed. During the latter half of the decade, conditions of full employment have prevailed, underemployment has been reduced and emigration has virtually disappeared. The number of registered unemployed was reduced from nearly 7,000(¹) in 1961 to 2,846 in 1971 or from about 3% to 1% of the economically active population, respectively. Although there are no reliable estimates of underemployment, it appears that this no longer constitutes a major problem. The evidence for this is that the spectacular growth in agricultural output during the past decade was accompanied by a small reduction in the number of gainfully employed persons in the sector. Finally, the number of emigrants has constantly been reduced from 13,489 in 1961 to 2,271 in 1971. Table 3 shows the distribution of gainfully employed population by sector and by group of sectors.

TABLE 3

Manpower Balance, 1961 and 1971

	1961	1971	Share (%)		Annual Rate of Growth (%) 1962–71
			1961	1971	
Primary	**103,598**	**100,400**	**47.3**	**40.9**	**—0.3**
Agriculture, Forestry, Fishing and Hunting	98,249	96,200	44.9	39.2	— 0.2
Mining and Quarrying	5,349	4,200	2.4	1.7	— 2.4
Secondary	**51,198**	**63,600**	**23.4**	**25.9**	**2.2**
Manufacturing	31,281	36,300	14.3	14.8	1.5
Construction	18,966	26,000	8.7	10.6	3.2
Electricity, Gas, Water and Sanitary Services	951	1,300	0.4	0.5	3.2
Tertiary	**64,134**	**81,700**	**29.3**	**33.2**	**2.4**
Transportation, Storage and Communication	9,376	11,400	4.3	4.6	2.0
Wholesale and Retail Trade	16,263	21,600	7.4	8.8	2.9
Banking, Insurance and Real Estate	1,708	2,600	0.8	1.1	4.2
Public Administration and Defence	6,603	9,200	3.0	3.7	3.4
Services	30,184	36,900	13.8	15.0	2.0
Total gainfully employed	**218,930**	**245,700**	**100.0**	**100.0**	**1.2**

Source : Department of Statistics and Research, Planning Bureau.

The employment pattern has changed structurally in the same direction as the production pattern. In other words, a greater proportion of the gainfully employed population is now engaged in the secondary and tertiary sectors compared with the situation ten years ago, whereas employment in both agriculture and mining has been reduced.

The full utilization of the labour force, as indeed of any other resource, is not the only longer-term objective. The objective should be qualified to include the most productive utilization of the labour force. Judging from the increases recorded in value added per person employed (Table 4) it would appear that during the period under review progress has also been made towards the attainment of this latter objective.

(¹) A revised estimate of the registered unemployed accounting for " newcomers " increases the figure of unemployed persons in 1961 to 9.599 or 4% of the economically active population.

TABLE 4

Value Added per Person Employed by Group of Economic Sectors

(*At Constant* 1970 *Prices—£*)

	1961	1971	Annual Rate of Growth (%) 1962–1971
Primary	**327**	**572**	**5.8**
Secondary	**459**	**785**	**5.5**
Tertiary	**892**	**1,464**	**5.1**
Total—All Sectors	**523**	**923**	**5.8**
Total—Secondary and Tertiary Sectors	**700**	**1,167**	**5.2**

Source : Planning Bureau.

The above structural changes in the utilization of manpower resources and the high rates of labour productivity increases attained have been made possible through raising the standards of education and training as well as through increased capital investment in the most productive sectors.

Education and Training : The general educational standard of the population has been raised through expansion in all layers of the educational system. In 1971/72 84.6% (70% in public schools) of primary school leavers were registered in secondary education schools compared with an estimated 67.6% (52% in communal schools) in 1960/61(¹). Many more secondary school graduates now follow university and other post-secondary school studies abroad. Evidence of developments in this field is the increase of Cypriot students' expenditures abroad which rose from £0.8 mln. in 1961 to £2.0 mln. in 1971. During the academic year 1970/71 it was estimated that there were around 11,450 Cypriot students abroad.

The secondary educational system is gradually being geared towards meeting the differentiated needs of the various branches of economic activity in skilled personnel. During the school-year 1960/61 there were only three public technical and vocational schools (including the Agricultural Gymnasium). By 1971/72 the number of these schools increased to eleven. But what was even more significant for the training and upgrading of the existing and new labour force has been the establishment of a number of new institutions and the introduction of new training programmes for the first time to provide courses in priority fields. In this respect mention could be made of the Apprenticeship Training Scheme, the Cyprus Productivity Centre, the Central Hotel Training School, the Hotel and Catering Institute, the Higher Technical Institute, various accelerated training programmes, etc.

For further information concerning the activities of these institutions attention is invited to the Chapter on Labour Policies and Programmes.

Factor Intensity : The attainment of conditions of full employment and the rapid growth experienced by the economy with the resultant shortages in skills has led over the years to the adoption of a more capital intensive technology. Table 5 below is indicative of the changes in factor intensities during the preceding decade.

(¹) Greek and intercommunal schools only.

TABLE 5

Fixed Investment per Person Employed
(At Constant 1970 *Prices)*

	First Plan	Second Plan
Additioanl capital investment—£'s mln.	161.8	235.3
Average labour force gainfully employed over a five-year period—Nos.	220,714	238,215
Additional capital per person—£'s	733	988

Source : Planning Bureau.

The indicator of factor intensity used in Table 5 is only an approximation to the capital/labour ratio. It reflects, however, the shift in the overall production function in favour of capital. It appears that substantial substitution has taken place during the latter half of the decade. At the same time, it reflects the more productive utilization of the labour force through the supply of additional and apparently more advanced technical means of production. This together with the substantial expansion of fixed investment and other factors, e.g. managerial and technical know-how, has led to the remarkable strides forward made in both production and productivity.

4. Available Resources and their Uses

So far direct or indirect reference has been made to the efforts exerted during the decade towards the full and more productive utilization of the stock of various resources—land, water, labour. The question which will be examined now is whether the results of the production process in one year, i.e. the available flow of resources, have been utilized in the right way. The available resources and the expenditure pattern during the decade 1961–1971 is shown in Table 6.

TABLE 6

Available Resources and their Uses
(At Constant 1970 *Prices—£mln.)*

	1961	1966	1971	Share (%)		
				1961	1966	1971
A. Disposable Resources	**131.8**	**175.2**	**262.2**	**100.0**	**100.0**	**100.0**
1. Gross Domestic Product	123.2	165.0	244.1	93.5	94.2	93.1
2. Net factor income from abroad	5.1	6.3	7.3	3.9	3.6	2.8
3. Net borrowing and net transfers from abroad	3.5	3.9	10.8	2.6	2.2	4.1
B. Uses of Resources	**131.8**	**175.2**	**262.2**	**100.0**	**100.0**	**100.0**
1. Private consumption	90.9	119.5	176.9	69.0	68.2	67.5
2. Government consumption	14.5	18.4	29.4	11.0	10.5	11.2
3. Gross fixed investment	24.5	37.2	52.7	18.6	21.2	20.1
4. Change in stocks	1.9	0.1	3.2	1.4	0.1	1.2

Source : Planning Bureau.

Table 6 shows that by far the most important source of financing domestic expenditures has been the Gross Domestic Product which accounted for 93.1% of total disposable resources in 1971. In fact the GDP contribution to total resources has not changed much during the 1961–1971 period. On the other hand, net borrowing from abroad increased both absolutely and relatively in order to enable the financing of gross expenditure on both consumption and investment. This development, though it should be kept under close watch, should give no cause for concern, the more so since gross fixed investment has taken up an increasing share in the use of available resources whereas the share of total consumption and private consumption was declining.

5. Improvement of Social Services—Standard of Living

As it has been repeatedly stressed, the attainment of a high rate of growth both overall and by sector of activity and the intensive efforts to modernize and develop the most productive sectors of the economy are not ends in themselves. They are merely the indispensable means for the improvement of the standard of living of the population. However, due to the nature of the economic problem, the policy should necessarily aim at the best reconciliation of the need to maintain those conditions which ensure unimpeded and rapid economic growth on the one hand and the fulfilment of the people's expectations for a continuously rising standard of living on the other.

The basic philosophy of the two five-year plans was to eliminate the elements of economic uncertainty inherited and to allow gradually the economy to grow on a sounder basis. The aim of the development policy was to lay the foundations on which to build gradually a healthy welfare state which would provide the social services of a modern society. A steadily rising standard of living and a more equitable distribution of national income were among the essential components of this policy, but the strategy of the Plans was that these objectives should be pursued along with the objective of strengthening the foundations of the economy and creating the preconditions for sustained growth and increased welfare in the future.

The assessment of the results of these efforts on the standard of living is not an easy task and hinges upon the controversy between various disciplines as to what constitutes a proper definition of the standard of living. The task is made even more difficult because of the absence of statistical information concerning the functional and household distribution of income.

Generally speaking, the overall standard of living of a country is indicated by the magnitude of its per capita Gross National Product and even better by the per capita private consumption expenditure. Gross National Product per capita increased from £222.4 in 1961 to £393.4 in 1971 at constant 1970 prices, or by an annual rate of 5.9%. On the other hand, private consumption expenditure per capita increased by 5.8% per annum, rising from £157.5 in 1961 to £276.8 in 1971. All income groups have benefited from this rise in the standard of living. Various elements compose a picture of a general rise in economic prosperity which is evident in everyday life.

Farm incomes, which are generally regarded to be among the lowest of the economically active income groups, have increased appreciably. Agricultural value added per person employed in real terms is estimated to have increased by about 7.3% per annum. With a view to strengthening the income of those farmers who are engaged in unstable and less remunerative agricultural occupations, the Government provided subsidies which, in the last analysis, amount to a transfer of income from the more wealthy classes to this class. During the period of the two five-year plans, the main direct agricultural subsidies provided, including subsidies for the increase of productivity, for relief from drought, etc. and for the support of the prices of cereals and vine products, amounted to about £17 mln.

Wage and salary employees in general also have followed closely and shared in the increased economic prosperity. Because wages and salaries are also cost items, the redistribution of income through pay increases which go beyond the increase in productivity would endanger monetary stability and would ultimately be detrimental to and adversely affect the purchasing power especially of employees themselves. The index of money earnings is estimated to have increased by 5.9% per annum during the period under review compared with an increase of 5.8% in overall productivity and an increase of 5.2% in the productivity of the non-farm sectors. During the Second Plan period the index of money earnings went up by 9.4% per annum whereas overall productivity and productivity in the non-farm sectors increased by only 6.3% and 4.6% per annum respectively. Although the increase in the index of earnings in real terms during the whole period under examination was relatively lower than the increase in per capita consumption, it is noteworthy that the annual increase during the period 1967–1971 was almost identical to the increase in per capita consumption during this period. If account is taken of the fact that in Cyprus there is an automatic link between salaries and wages on the one hand and the cost of living index on the other, of the fact that a sizeable amount of benefits has been provided in the form of fringe benefits and that other benefits pecuniary or otherwise have accrued to this group as a result of various labour measures taken for the first time during this period the statement at the beginning of this paragraph holds true.

During the two five-year plans, a lot has been done by Government to improve social services in an effort to raise the standard of living and render the distribution of income more equitable as well as to promote social development in general. In the field of health, there was both a quantitative and a qualitative improvement in the public health services, which cater mainly for the low income groups of the population. The number of doctors and dentists increased from 112 in 1961 (95 in 1960) to 165 in 1971. Particularly noticeable was the increase of hospital nursing staff, the numbers having risen from 486 in 1960 to 1,031 in 1971. Similarly the numbers of other paramedical staff have increased. The overall increase in medical and paramedical staff and its qualitative improvement were greatly aided by staff training and/or retraining abroad through scholarships secured by the Government mainly from friendly countries or international organizations, the reorganization and expansion of the Training School for Nurses at the Nicosia General Hospital and the establishment of branches at the Famagusta and Limassol Hospitals, as well as through the improvement of conditions of employment in the public health services. The appointment of more specialist doctors made it possible to provide specialized medical treatment in a wider field in all Government hospitals.

Parallel to staffing of public hospitals, the hospital bed capacity was also increased. While in 1961 there were 1,624 hospital beds, the number increased to 1,904 in 1971. Thus, the capacity of hospitals to treat in-patients and out-patients has improved and so has their equipment. In 1971 the number of in-patients and out-patients treated were 30,402 and 798,386 compared with 20,401 and 660,114 in 1960, respectively.

During the decade under review, substantial progress has been made in the field of preventive medicine and there has also been an improvement in environmental conditions, thus affording protection to the people's health from epidemic diseases. A long-term programme has been introduced to combat echinococciasis which is the only endemic disease in Cyprus.

Considerable progress has also been made in the field of education and cultural development. In 1962 elementary education became compulsory. The total number of elementary school children declined from 67,276 in 1960/61 to 64,415 in 1971/72 while the number of teachers increased from 1,852 to 2,165 during the same period. Thus the pupil/teacher ratio dropped from 36.3 to 29.8, indicating the qualitative improvement achieved in this field. Particularly evident has been the progress made in the construction of new modern elementary school buildings. During the 1960–1971 period 248 new elementary school buildings were constructed and extensions and improvements were effected to a considerable number of existing schools. However, even greater progress was achieved in the field of secondary education. The number of public secondary schools of general education increased from 19 in 1960/61 to 41 in 1971/72. Secondary schools of general education, including a new type of three-year gymnasium, were established both in towns and in the major rural centres. In all 535 new classrooms were constructed, while special attention was paid to the provision of equipment for all schools. The pupil/teacher ratio dropped from 27.4 to 22.9. During the same period substantial progress was made in the field of technical and vocational education. Altogether 167 new classrooms were built for the needs of these schools during the period 1961–1971.

In order to give further and better training and specialisation to the teaching staff at all levels, a large number of scholarships was secured for studies abroad. At the same time a third year of studies was added to the Paedagogical Academy. The Higher Technical Institute was established to satisfy, *inter alia*, the needs of technical and vocational schools in properly trained instructors.

Other plans, programmes and policy measures taken during the decade 1961–71 in the field of education and cultural development include the establishment of foreign language institutes, the construction of new schools for the blind, the deaf, the retarded children and the centre for the rehabilitation of the disabled, the introduction of educational T.V., the establishment of a mobile lending library, the participation in art exhibitions, the establishment of the Cyprus Athletics Organization, the establishment of the State Theatre, etc. Finally, a decision was taken to introduce gradually free education for the first three years of secondary education.

The Social Insurance Scheme was amended in 1964 and thus it has become possible (i) to cover all working people in the Island (including employers, farmers and agricultural workers), (ii) to merge the provisions of the Workmen's Compensation Law with those of the Social Insurance Law, and (iii) to increase social insurance benefits by 50%. Social insurance benefits were further increased by 7–8% in 1969. Legislative and other measures were taken for the creation of conditions of greater safety for workers. Legislation has been introduced governing the termination of employment and providing for the payment of compensation upon dismissal due to redundancy. Legislation has also been introduced for the grant of annual holidays with pay to employees. Public assistance payments have increased from £143,000 in 1960 to £242,000 in 1971. A new Children's Home was established in Nicosia and buildings have been constructed for Children's Homes in Limassol and Famagusta, a Boys' Hostel has been established in Famagusta, and buildings have been constructed or existing ones have been extended for hostels in Nicosia and Paphos. A hostel for maladjusted girls has been established in Nicosia and Youth Centres have been established in Nicosia, Limassol and Famagusta. Grants have also been made to voluntary charitable organizations.

But beyond these, the improvement in the standard of living may be judged "through the measurement of clearly delimited aspects or parts of the total life situation that are amenable to quantification and that reflect generally accepted aims of social and economic policy . . . ."(¹). Fields, such as health conditions, educational standards, housing facilities, use of durable consumers' goods and similar facilities are considered as components of the standard of living. An evaluation of developments in terms of the main social indicators is presented in summary form in Table 7. These indicators provide clear evidence of the remarkable achievements in raising the standard of living of the population.

Selected Indicators of the Standard of Living in Cyprus, 1960, 1966 and 1971

TABLE 7

	1960	1966	1971
1. **Health Conditions :**			
(*a*) Expectation of life at birth (No. of years)	66.2	70.5	72.8
(*b*) Infant mortality rate (No. per 000 live births)	29.9	26.4	25.3
(*c*) Crude annual death rate (No. per 000 Population)	5.6	5.8	6.4
(*d*) Population per doctor	1,467	1,317	1,179
2. **Educational Standards :**			
(*a*) Elementary education enrolment ratio (% of children of school age enrolling)	88	93	94
(*b*) Secondary education enrolment ratio (% of children of school age enrolling)	48	54	72
(*c*) Number of third level students per 000 population	—	10.6	17.9
3. **Housing Facilities :**			
(*a*) Average number of persons per room—			
(i) Urban	1.21		0.84
(ii) Rural	1.36	—	1.02
(*b*) Proportion of dwellings with inside or outside running water (% to total)—			
(i) Urban	95.3	—	100.0
(ii) Rural	16.2	—	91.8
(*c*) Proportion of dwellings with bathroom (% to total)			
(i) Urban	53.1	—	76.0
(ii) Rural	10.5	—	23.7
(*d*) Proportion of dwellings with flush toilet (% to total)—			
(i) Urban	52.6	—	85.6
(ii) Rural	5.2		29.0
(*e*) Proportion of villages with electricity supply (% to total)	15.3	50.3	81.5
4. **Other Selected Indicators :**			
(*a*) Number of persons per radio set	10.0	4.3	3.7
(*b*) Number of persons per T.V. set	625.0	28.7	11.0
(*c*) Number of persons per telephone set	52.6	19.8	13.1
(*d*) Number of persons per road vehicle	14.0	10.3	6.9
(*e*) Miles of road per square mile	1.13	1.24	1.37

Source : Census of Population, 1960, Statistical Abstracts, Demographic Reports, Economic Reports, Public Works Department, Annual Reports, Household Survey, 1971 and Planning Bureau.

(¹) U.N. "International Definition and Measurement of Levels of Living", 1961.

6. Improvement of the Balance of Payments

One of the longer-term objectives of the development effort is the attainment of a sound balance of payments position. The term " sound " should be taken to imply not only equilibrium in foreign exchange payments and receipts, but, what is more important, the creation of conditions which would ensure a steady inflow of adequate foreign exchange earnings. From the definition of this objective it may easily be inferred that the restructuring of the balance of payments is a longer-term process. In the ultimate analysis it is closely related and depends on the success of the whole development effort. At the same time, the attainment of this objective is a fairly urgent one given that the country's foreign exchange receipts depend to a sizeable degree on unstable sources over which the Government has no control.

Throughout the period the balance of payments has been in surplus (Table 8). Foreign exchange reserves increased from £24.7 mln. in 1961 (£17.3 mln. in 1960) to £114.9 mln. in 1971. At the end of 1961 these reserves represented just over seven months of imports of goods and services, while at the end of 1971 reserves were sufficient for twelve months imports of goods and services. The improvement in the foreign exchange reserve position has been made possible through both the surpluses of the current account and through net capital inflows. Ever since 1968, however, the current account has shown a deficit, which was more than offset through increased net capital inflows.

Balance of Payments Summary, 1961, 1966 and 1971

(£mln.)

TABLE 8

	1961	1966	1971
Imports of Goods & Services	41.5	58.7	119.0
Exports of Goods & Services	30.0	51.7	95.8
Balance of Goods & Services	—11.5	—7.0	—23.2
Net Factor Income from Abroad	5.2	4.1	9.5
Transfer Payments	7.9	4.1	7.1
Current Account Balance	+1.6	+1.2	—6.6
Long-term Loans and Private Investment Financing	+2.6	+3.5	+17.6
Errors and Omissions	+4.7	—0.4	+6.9
Overall Balance	+8.9	+4.3	+17.9

Source : Central Bank of Cyprus, Planning Bureau.

Despite the overall strong position of the balance of payments, a detailed examination of its components reveals certain weaknesses that still exist despite other healthy developments. The trade account deficit has been on the increase, having risen from £17.7 mln. in 1961 to £49.2 mln. in 1971. As already said, the current account has been in deficit for the last few years. This means that the country cannot finance its imports of goods and services entirely through exports of goods and services, net factor income from abroad and transfer payments. This development was anticipated in the Second Plan, though the expected magnitude of the deficit was lower than the one actually realized. The reason for this development, as given in the Plan, was the need to import increased quantities of capital goods and raw materials " reflecting the accelerated and determined effort of the economy to reshape and establish itself on sounder formulations."

Indeed, looking at Table 9 the largest expansion in the import bill was due to the high increase in the capital goods and raw material components. Their relative shares in total imports have significantly increased, while the share of consumer goods has declined. This development indicates that the import substitution policy adopted has yielded results and that in the future there will be both more import substitution of consumer goods and more earnings through exports.

TABLE 9

Imports by Economic Destination

(c.i.f.—£mln.)

	Absolute Values			Share (%)		
	1961	1966	1971	1961	1966	1971
Total Imports	**38.4**	**55.4**	**106.9**	**100.0**	**100.0**	**100.0**
of which—						
1. Consumer Goods ..	15.5	19.7	35.2	40.4	35.5	32.9
2. Raw Materials	12.9	19.5	37.2	33.6	35.1	34.8
3. Capital Goods ..	6.1	11.3	23.5	15.9	20.5	22.0
4. Fuels & Lubricants ..	3.5	3.8	8.5	9.1	6.9	8.0
5. Unclassified	0.4	1.1	2.5	1.0	2.0	2.3

Source : Department of Statistics and Research.

Furthermore, the ratio between exports and imports of goods and services has increased from 72.3% in 1961 to 80.5% in 1971. The increased coverage of such imports has been made possible through a slight improvement of the ratio between exports and imports of merchandise goods, but mainly through increased tourist and other receipts. On the contrary, earnings from unstable sources over which the Government has no control have been declining in relative importance, as may be seen from Table 10. Thus, the country can now pay for a larger proportion of its imports through exports of its own produce and services.

TABLE 10

Receipts on Current Account, 1961, 1966 and 1971

	Values—£mln.			Share (%)		
	1961	1966	1971	1961	1966	1971
1. Merchandise (fob)	15.9	27.6	45.3	34.1	42.4	38.5
2. Freight, Insurance and other Transportation	0.8	1.1	5.9	1.7	1.7	5.0
3. Travel (tourist receipts)	2.8	3.6	13.6	6.0	5.5	11.6
4. Government, n.i.e.	17.3	23.6	34.2	37.1	36.3	29.1
5. Other Services	1.1	2.1	4.8	2.4	3.2	4.1
6. Investment Income	0.6	2.7	6.1	1.3	4.1	5.2
7. Transfer Payments	8.1	4.4	7.7	17.4	6.8	6.5
Total	**46.6**	**65.1**	**117.6**	**100.0**	**100.0**	**100.0**

Source : Central Bank of Cyprus.

During the same period, significant developments have also been observed with regard to the structure of domestic exports (Table 11). The Cyprus export basket has been diversified and enlarged. Exports of agricultural products have increased by more than four times and have taken the lead from minerals. Other exports, including mainly manufactured products, have emerged as a new dynamic source of foreign exchange earnings.

Structure of Domestic Exports, 1961, 1966 and 1971

(f.o.b.—£mln.)

TABLE 11

Year	Total Domestic Exports	Agricultural Products			Minerals	Other	Share (%)		
		Total	Raw	Processed			Agricultural	Minerals	Other
1961 ..	15.8	7.1	4.7	2.4	8.4	0.3	44.9	53.2	1.9
1966 ..	27.2	14.4	10.1	4.3	12.2	0.6	52.9	44.9	2.2
1971 ..	42.1	29.2	21.8	7.4	9.5	3.4	69.3	22.6	8.1

Source : Department of Statisitcs and Research, Planning Bureau.

7. Regional and Rural Development

As stated in the Second Plan " it is not possible or economically justifiable to develop every region of the Island at the same pace ..... The longer-term objective, however, is to exploit the potential of all regions and to reduce and if possible eliminate income differentials between regions ". It is a basic principle in planning that regions that command comparative advantages over others should be developed first. The accumulation of national wealth and income will eventually permit the development of other regions, while in the meantime differences in comparative advances between regions may be reduced and even reversed thus making the development of all regions a feasible proposition.

Despite the necessity to locate economic activity and to undertake projects in those areas which were ripe for development and from which quick and high returns could emerge, the regional aspect of development was not neglected. This was pursued through the provision of basic services to help both the economic development of all regions and to improve living conditions. The various agricultural projects, the water development schemes, the road projects, the erection of school buildings, etc. covered in one form or another all geographical areas. In the field of town water supplies large sums of money were spent to tackle the water shortage problems in the towns of Nicosia, Famagusta, Larnaca, Paphos and Kyrenia. Substantial amounts were also spent on the development and improvement of village water supplies. Thus, during the period 1962–1971 the remaining 69 villages were supplied with piped water, 277 villages were supplied with house-to-house water and the number of villages with a daily supply of water below 20 gallons per head decreased from 200 in 1961 to 51 in 1971. The scheme for the electrification of the countryside was successfully implemented and by the end of 1971 512 villages were on supply compared with only 96 villages in 1961. During the period 1961–1971 388 additional villages were connected to the telephone network, the total number of villages served by telephone having risen to 507 by the end of 1971. Finally, the rural postal services have been improved through the appointment of new agents and the establishment of a daily service in more than 90% of the villages.

During the period under review, the resiting of three villages, seriously affected by landslides, was completed, and work was put in hand for the resiting of other villages. Considerable progress was made in the asphalting of village streets, the connection of villages to trunk roads through asphalted access roads and the construction of farm roads and public buildings in villages. Progress was also made in the execution of town planning projects and detailed town plans were initiated and completed for most of the towns. Moreover, a master plan was completed laying down the framework within which the development of the Island will take place within the next 30 years from the physical and spatial country planning point of view. For a more detailed exposition of the present situation in various regions the reader is referred to the relevant Chapter.

8. Development Expenditures, 1962–1971

During the period of the first two five-year plans a total amount of £72.5 mln. was spent on the implementation of various projects and programmes out of the Development Budget. Additional amounts were spent through the Ordinary Budget, especially in the case of social services. Details of the allocation of development expenditures are contained in Table 12.

Development Expenditures, 1962–1971

(£mln.)

TABLE 12

Sector	1962–66	1967–71	1962–71
1. Agriculture and Water	12.33	16.02	28.35
2. Rural Development	2.11	1.97	4.08
3. Mining (Geological Survey)	0.14	0.47	0.61
4. Manufacturing	1.18	1.34	2.52
5. Commerce	0.20	0.81	1.01
6. Tourism and Antiquities	1.62	3.57	5.19
7. Transport and Communications	6.13	12.26	18.39
8. Education and Cultural Development	0.60(1)	2.48	3.08
9. Other Labour Training Institutions and Programmes	0.15	1.11	1.26
10. Other Social Services (incl. Health, Labour, Welfare, Correctional Institutions)	0.63	0.98	1.61
11. Town Planning and Municipal Projects	0.60	2.19	2.79
12. Public Buildings and Other Services	1.01	2.58	3.59
Total	**26.70**	**45.78**	**72.48**

Source : Planning Bureau.

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(1) Expenditures by the Communal Chambers are not covered.

PART II

Overall Economic and Social Development

CHAPTER 3

PROGRESS DURING THE SECOND PLAN AND OVERALL OBJECTIVES AND TARGETS OF THE THIRD PLAN

1. Introduction

The ultimate aim of development policy is to ensure a better standard of living for the population, and Plans are the instruments through which coordinated and mutually consistent policies and measures are taken to realise this aim. Plans also provide a link between the past and the future and ensure a continuity of policy. Thus, the Third Plan will be a continuation of the development effort which started with the First and was successfully continued during the Second Five-Year Plan.

Realization of the longer-term aims of economic and social development requires a continuous effort which cannot be finalized within arbitrarily defined time limits and especially within the comparatively narrow time span of a five-year period. There is, therefore, the need for intermediate objectives which must be clearly formulated and be pursued through appropriate policies.

The basic objectives of the medium-term development policy have been determined in the light of the longer-term objectives and have been formulated after a careful assessment of the potentialities and requirements of the economy. The progress achieved so far, the present stage of development, the existing problems and bottlenecks are some of the factors taken into account in formulating the basic objectives of the Third Plan.

As in the case of the Second Plan, fast economic growth, improvement in the composition of output, improvement in the standard of living and a more equitable distribution of income, full employment, monetary stability and a satisfactory balance of payments position comprise the basic objectives of the Third Plan. However, in a complex and inter-related world simultaneous pursuit of these objectives may result in a conflict ; so the Plan attempts to resolve this conflict in a solution which incorporates and harmonises the diverse aims of development policy.

2. Rate of Growth

The basic aim of the Second Plan was the continuation at an even higher level of the already high rate of growth of the economy as a whole. The planned annual rate of growth of Gross Domestic Product at constant factor cost for the period 1967–1971 was of the order of 7.2%. The annual rate actually attained was 8.5%. On the other hand, Gross National Product increased by 8.4% per annum (Table 1). Thus, the planned rate of growth has not only been attained but has also been surpassed. This high rate of growth was, among other factors, responsible for the pressures which at times were exerted on the various economic magnitudes. The situation, however, was successfully met through a series of short-term measures for the management of the economy.

After a careful study of all available data and an assessment of all the relevant factors the overall growth rate adopted for the Third Plan period is around 7.4% per annum for G.D.P. and 7.2% for G.N.P. (Table 1). Although a fast rate of growth compared with rates achieved in other developing countries, detailed studies confirm that such a rate is both feasible and compatible with the simultaneous pursuit of other objectives. In fact, a rate of growth of this magnitude will maintain confidence in the economy and will be instrumental in creating the preconditions and generating the resources necessary for the achievement of the other targets of the Plan. A lower rate of growth would have meant not only that the economy would be unable to make the strides forward required to reduce the existing differential between European and Cypriot living standards, but would also increase the dependence of the economy on unstable sources of income and would thus reduce Government's ability to steer the economy towards the desired directions of growth. On the other hand, the rate of growth, although higher than the planned rate, is lower than that actually achieved during the Second Plan period. However, a higher rate of expansion would have created balance of payments problems and was likely to have adverse effects on external and internal monetary stability.

Gross Domestic Product by Sector and Gross National Product, 1966, 1971 and 1976
(*£mln.*)

TABLE 1

	SECOND FIVE-YEAR PLAN (*At Constant* 1966 *prices*)				THIRD FIVE-YEAR PLAN (*At Constant* 1970 *Prices*)			
	1966	1971	Annual Rate of Growth (%) 1967–71		1966	1971	1976	Annual Rate of Growth (%) 1972–76
			Realized	Target				
Agriculture	26.4	40.6	9.0	8.5	29.2	44.3	62.2	7.0
Mining and Quarrying	9.2	10.8	3.2	—	12.0	13.1	14.3	1.8
Manufacturing	15.5	24.1	9.2	10.0	17.3	26.9	45.5	11.1
Construction	8.9	14.7	10.5	10.6	11.2	18.4	27.0	8.0
Electricity	2.6	4.5	11.6	8.2	2.7	4.6	7.7	11.0
Trnasport & Communication	15.1	23.7	9.5	6.6	12.9	20.2	28.8	7.4
Wholesale & Retail Trade	20.7	32.4	9.4	8.2	22.8	35.7	52.7	8.1
Banking. Insurance & Real Estate	5.6	10.6	13.6	8.4	6.1	11.6	17.8	8.9
Ownership of Dwellings	13.3	14.7	2.0	2.3	15.0	16.6	18.5	2.2
Public Administration	8.0	12.3	9.0	5.9	8.7	13.3	17.7	5.9
Services	12.5	19.2	9.0	6.3	14.5	22.2	31.1	7.0
Gross Domestic Product at Factor Cost	**137.8**	**207.6**	**8.5**	**7.2**	**152.4**	**226.9**	**323.3**	**7.3**
Plus : Indirect Taxes	12.7	19.2	8.6	6.0	13.3	19.7	28.0	7.3
Minus : Subsidies	0.8	2.1	21.3	10.2	0.7	2.5	2.5	—
Gross Domestic Product at Market Prices	**149.7**	**224.7**	**8.5**	**7.0**	**165.0**	**244.1**	**348.8**	**7.4**
Plus : Net Factor Income from the Rest of the World	4.1	6.0	7.9	—5.0	6.3	7.3	6.4	—2.6
Gross National Product	**153.8**	**230.7**	**8.4**	**6.8**	**171.3**	**251.4**	**355.2**	**7.2**

Source : Planning Bureau.

The planned rate of expansion can be achieved by taking up available opportunities, overcoming obstacles to growth and ensuring that the resources of the country are utilized efficiently. The policies incorporated in the Plan aim at the utilization, to the extent that it is economically possible, of the indigenous resources of land, water and minerals. Stress is also laid on the further development and economic use of manpower, the improvement in the utilization of capital, and the elimination of certain institutional obstacles. In other words the Plan represents a concerted effort to increase the overall competitiveness of the economy, a necessary precondition for the achievement of the Plan's targets. Thus, an improvement in the competitiveness of the economy will neutralise the constraint imposed by the small size of the domestic market and will open up new foreign markets for Cyprus. It is only through an increase in the competitive position of the country that exports could expand, imports reduced and the balance of payments would not be a constraint on development. Furthermore, as a result of the planned fast growth in output, the labour market is expected to be tight and this suggests that increased productivity is the safest way of expanding output without exerting undue pressure on the available manpower potential.

3. Sectoral Growth Targets

The achievement of a high rate of growth is not an adequate objective in itself. More importantly, the Plan should also aim at the achievement of a desired composition of output, an objective which, if realised, could enhance the stability of the economy and create the conditions for further growth.

As will be seen from Table 1, during the Second Plan period both agriculture and manufacturing industry attained a higher rate of growth than the overall economy and have improved their relative contribution to Gross Domestic Product. Almost all sectors have expanded at a rapid pace and surpassed the Plan's targets. In fact a more detailed analysis of the performance achieved during the Second Plan indicates that the economy is now on sounder foundations than ever before.

During the Third Plan period all sectors are expected to experience expansion. Emphasis will be placed again on the further development of agriculture, industry and tourism. Industrial output is anticipated to expand at a fast pace. Manufacturing and electricity will spearhead the growth and increase noticeably their contribution to total production (Table 2). Thus, by 1976 the structure of the economy is expected to be more rational and conducive to stability.

TABLE 2 **Percentage Share of Each Sector in Gross Domestic Product, 1966, 1971 and 1976**

	Share to Total (%)		
	1966	1971	1976
Agriculture	19.2	19.5	19.2
Mining and Quarrying	7.9	5.8	4.4
Manufacturing	11.3	11.9	14.1
Construction	7.3	8.1	8.4
Electricity	1.8	2.0	2.4
Transport and Communication	8.5	8.9	8.9
Wholesale and Retail Trade	15.0	15.7	16.3
Banking, Insurance and Real Estate	4.0	5.1	5.5
Ownership of Dwellings	9.8	7.3	5.7
Public Administration	5.7	5.9	5.5
Services	9.5	9.8	9.6
G.D.P.	**100.0**	**100.0**	**100.0**

4. Standard of Living—Income Distribution

During the Second Plan period the high rate of growth achieved resulted in a substantial increase in the standard of living. Gross National Product increased by 8.4% per annum rising from £153.8 mln. in 1966 to £230.7 mln. in 1971, while per capita Gross National Product increased from £255.5 to £361.0, respectively, or by 7.2% per annum, at 1966 prices. When allowance is made for resources allocated to fixed capital formation, Government consumption, etc., the per capita private consumption expenditure increased from £183.6 in 1966 to £257.4 in 1971, i.e. it was rising by about 7% per annum, which depicts a fast rise in the overall standard of living. As shown elsewhere in the Plan all income groups participated in this general prosperity.

Unfortunately, there are no reliable statistics on the distribution of national income between factors of production and between households from which one could measure the degree of success in attaining the long-term objective of a more equitable distribution of income among various income groups. A certain amount of information on income distribution, however, may be derived from the analysis of the results of the Household Survey conducted in 1971 by the Statistics and Research Department.

The Survey, which was based on the systematic random sampling method, covered 3% of the population (not including the Turkish Cypriot Population) and collected information, *inter alia*, on the family expenditures using a two-week reference period in four different months of the year. The declared family expenditures by income group were used to study implicitly the income distribution pattern. The results indicate that the distribution of income in Cyprus is rather equitable. In fact the concentration and the Gini coefficients, which are usually used for measuring the degree of equality in income distribution, were found to command values which compare very favourably with similar coefficients estimated for many Western European countries.

The above findings, however, should not be taken as final. The statistical information used was collected for other purposes and might not depict correctly the distribution of income situation. A specific study on income distribution will be undertaken during the Third Plan period.

The aim of the Third Plan, as mentioned before, is to raise further the standard of living of the population. Despite the fact that net factor income from abroad is projected to decline during the Plan period, G.N.P. at 1970 prices is anticipated to expand by around 7.2% per annum rising from £251.4 mln. in 1971 to £355.2 mln. in 1976. Thus per capita G.N.P. is projected to increase from £393.4 in 1971 to £520.8 by 1976, i.e. to grow at about 5.8% per annum, a rate which, although lower than that achieved during the Second Plan, is nevertheless a satisfactory rate of growth. Per capita private consumption expenditure on the other hand is projected to expand at a slightly lower rate, i.e. 5.6% per annum, rising from £276.8 in 1971 to £364 in 1976.

The use of per capita income or per capita private consumption, however, as indicators of the standard of living are inadequate and do not reveal much about the distribution of income and welfare. As stated above, this matter will form the subject of a special study during the Third Plan period. In the meantime, the distribution of increased welfare among the population on an even more equitable basis will be pursued, mainly, through the provision of improved and extended social services, as envisaged in the relevant Chapters. In summary, the Government proposes to achieve a better distribution of income by (*a*) maintaining conditions of full and more productive employment of the labour force ; (*b*) expanding and improving social services (e.g. health, education, welfare, social security, housing) ; (*c*) fostering regional and rural economic and social development programmes ; and (*d*) continuing the policy of direct income transfers.

5. Employment

In the field of manpower and employment the objective of the Second Plan was to maintain conditions of full employment and to promote the most productive employment not only in order to maximise the contribution of the human factor to the productive process, but also in order to improve the standard of living of the working population. As a result of the rapid growth of the economy the first target was fully achieved and there was virtually no unemployment during the Second Plan. On the contrary, pressures were developed especially for certain skills and the labour market remained relatively tight throughout this period. The number of registered unemployed fell from 3,484 in 1966 to 2,846 in 1971, representing only 1% of the economically active population.

Although the level of unemployment is very low, there is still underemployment in agriculture and in certain other sectors labour resources are not employed in the most efficient manner with adverse effects on productivity. Nevertheless, the objective of most productive employment appears to be gradually attained to a satisfactory degree. Employment in agriculture is declining in favour of higher productivity sectors, and there is a shift from low to high productivity establishments in other sectors. On the other hand, the various training institutions and the training and retraining programmes supply the economy with a growing number of trained personnel.

The basic aims of the Third Plan in the field of manpower and employment will be similar to those of the Second Plan. The production targets of the Plan were determined with the objective of maintaining full employment conditions and reducing underemployment further. Moreover, the aim of employment policy will be to increase the productivity of labour and to create conditions for a more productive and therefore more remunerative employment of the labour force.

6. Internal Monetary Stability

The Second Plan attached great importance to the maintenance of internal and external monetary stability. The maintenance of relatively stable prices at home constitutes an objective and a means to achieve other aims and targets of the economic development programmes. The consequences of inflation, that is the continuous and uncontrolled increase of the level of prices, on the economic and social development of the country can be summed up as follows : As against foreign countries, Cyprus would lose its comparative advantages and this would adversely affect both exports and the inflow of invisible earnings, through, for example, tourism. This, in turn, would reduce the ability of the economy to expand in existing or in new productive fields. The loss of foreign markets or the inability to find new ones would constitute a serious obstacle to further development, particularly in fields such as industry, whose development is closely related to the size of the market. Moreover, the reduction of the inflow of foreign exchange from the above sources would perpetuate the dependence of the economy on unstable sources of foreign exchange earnings, would possibly create a deficit in the balance of payments with a consequential weakening of the foreign exchange reserve position of the country, loss of confidence in the Cyprus currency, etc. Internally, the purchasing power of workers and generally of all those living on fixed incomes would constantly be whittled down, and an increase in monetary incomes would fail to contribute in any way to the improvement in their standard of living because of the rise in prices, which will have taken place in the meantime. This, besides disturbing industrial relations, would also have other adverse repercussions, because such a situation entails, as a rule, disruption of economic values, inability for rational and sound planning and retardation of progress.

As a result of the policy followed, relative price stability was maintained and the economy reached higher levels despite the continuous existence of full employment, the inflationary pressures which appeared from time to time and the devaluation of the Cyprus pound in the meantime. The price level, as this is reflected in the retail price index, increased by 3.2% annually between the years 1967–1971. Besides the fiscal measures, the monetary and credit policy measures, and the policy of direct Government intervention in certain cases of unjustified price increases, the maintenance of a relatively stable price level was also pursued through the setting up of a tripartite Advisory Committee on Prices and Incomes with terms of reference (*a*) to follow price and income fluctuations and other related matters, (*b*) to make suggestions as to the policy to be followed on prices and incomes and (*c*) to make suggestions from time to time as to the criteria and the general guidelines to be followed with regard to the evolution of prices and incomes. Immediately on its establishment the Committee set about formulating the general policy and the criteria. The task was not easy having regard to the desirability of a concensus of opinion being reached by the three sides on all general and specific matters. However, considerable ground has been covered and all sides agree that the Committee has done a useful job and should continue its efforts. The points on which agreement was reached in principle concern both the evolution of salaries and wages and the evolution of prices. There were, however, disagreements over the implementation of such a policy.

But despite the difficulties which have arisen, it is only through a sound policy on prices and incomes that it will be possible to maintain the robustness of the economy and to ensure its forward stride. The economic vitality of the Island will be undermined and progress will be checked if questions of prices and incomes are not faced in a responsible manner. Therefore, efforts to reach an agreement amongst the parties concerned will continue. Moreover, the necessary measures will be taken both generally, so that total demand may not exert pressures on the supply of goods and services, and in specific cases. The maintenance of relative price stability will constitute under the Third Plan also an objective and a means to achieve other aims and targets of the Plan.

7. External Monetary Stability

Related to the question of monetary stability at home is also the question of external monetary stability, which is linked with the balance of payments position. The objective of the Second Plan in this connection was to maintain a relatively high level of foreign exchange reserves and to restructure the balance of payments to the extent that this was feasible within the narrow span of a five-year period. As regards foreign exchange reserves, these increased from £53.8 mln. in 1966 to about £114.9 mln. in 1971, representing imports of goods and services for about 11 and 12 months, respectively. There was a surplus in the balance of payments throughout the Second Plan, the final surplus having increased from £4.3 mln. in 1966 to £17.9 mln. in 1971. This increase of the surplus in the balance of payments was the result of the substantial inflow of foreign capital. On the other hand, both the trade balance and the current account balance have shown a constantly increasing deficit.

The maintenance of a surplus balance of payments position and its further improvement will be one of the objectives of the Third Plan. The policy of import substitution will continue on a more selective basis, but heavier emphasis will be placed on export promotion. Imports are expected to grow at a slower pace than during the past five years because of the commencement of operation of certain import substituting basic industries. On the other hand exports are expected to continue expanding at the same pace as during the Second Plan period. However, the deficit in the trade balance and the current account will continue to grow despite the anticipated substantial increase in certain invisible earnings such as earnings from tourism. Finally, the overall balance of payments is expected to be in surplus.

CHAPTER 4

AVAILABLE RESOURCES AND THEIR USES

1. Developments during the Second Plan period

During the period 1967–1971 the Gross National Product increased at an annual rate of 8.4%, rising from £153.8 mln. in 1966 to £230.7 mln. in 1971(1). The realised rate of growth of GNP, which is much higher than the target of 6.8% adopted in the Second Plan, reflects the fast expansion of Gross Domestic Product at market prices and to a lesser extent the evolution of net factor income from abroad. However, available resources for domestic use, which in addition to GNP include also net borrowing(2) and net transfers from abroad(3), increased faster than GNP, i.e. by an annual rate of growth of 8.6%, having risen from £156.7 mln. in 1966 to £237.2 mln. in 1971. Net borrowing from abroad, however, in absolute terms amounted to £7.2 mln. Adding to this net transfers from abroad, which were of the order of £23.3 mln., it is found that only £30.5 mln. or 3% of the available resources were of foreign origin (Table 1).

With regard to the uses of available resources, a total amount of £825.9 mln. or 80.6% of these resources was used for consumption purposes, while the remaining £198.9 mln. or 19.4% were used to finance fixed investment and increases in stocks. The evolution of the various components of the gross expenditure of the economy is briefly described in the following paragraphs.

1.1 Consumption Expenditure

As a result of the faster rate of growth of GNP, aggregate consumption expenditure increased at a quicker pace than the annual rate of 6.2% anticipated in the Plan, rising from £127.8 mln. in 1966 to £192.2 mln. by 1971 or by an annual rate of growth of 8.5%. The growth of consumption, however, was slightly less than the growth of the gross expenditure of the economy, indicating that the elasticity of consumption expenditure in terms of available goods and services is slightly less than unity. Thus, the share of consumption expenditure to the total gross expenditure of the economy decreased from 81.5% in 1966 to 81.0% in 1971.

Private consumption expenditure increased at a slower pace than aggregate consumption. Nevertheless it surpassed the target of 6.0% set in the Plan and rose from £110.5 mln. in 1966 to £164.5 mln. by 1971 or at an annual rate of growth of 8.3%, a sufficiently fast growth to make possible a substantial increase in the standard of living of the population. Government consumption expenditure on the other hand increased faster, rising from £17.3 mln. in 1966 to £27.7 mln. by 1971 or at an annual rate of growth of 9.9%, which is also higher than the target of 7.3% anticipated in the Plan. This relatively fast growth of public consumption reflects the increases in salaries and wages of Government employees and the increasing participation of Government in the economic and social life of the country.

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(1) All economic magnitudes in this section referring to the Second Plan are given at 1966 prices.

(2) Net borrowing (lending) from abroad in real terms is equal to the current account deficit (surplus).

(3) Net transfers from abroad include both current and capital transfers.

Available Resources and Gross Expenditure of the Economy, 1966 and 1971

TABLE 1

(At Constant 1966 Prices—£mln.)

	1966		1971		Annual Rate of Growth (%)	1967–1971	
	Amount	Share (%)	Amount	Share (%)		Amount	Share (%)
1. GDP at Market Prices	149.7	95.5	224.7	94.8	8.5	964.6	94.1
2. Net Factor Income from Abroad ..	4.1	2.6	6.0	2.5	7.9	29.7	2.9
3. GNP (1 + 2) ..	**153.8**	**98.1**	**230.7**	**97.3**	**8.4**	**994.3**	**97.0**
4. *Net Borrowing from Abroad and Net Transfers* ..	2.9	1.9	6.5	2.7	17.5	30.5	3.0
4.1 Net Transfers	4.1	2.6	6.2	2.6	8.6	23.3	2.3
4.2 Net Borrowing (+)/Lending (—) ..	1.2	—0.7	0.3	0.1	—	7.2	0.7
5. Gross Available Resources (3 + 4) ..	**156.7**	**100.0**	**237.2**	**100.0**	**8.6**	**1,024.8**	**100.0**
6. *Consumption Expenditure*	127.8	81.5	192.2	81.0	8.5	825.9	80.6
6.1 Private ..	110.5	70.5	164.5	69.3	8.3	710.8	69.4
6.2 General Government	17.3	11.0	27.7	11.7	9.9	115.1	11.2
7. *Gross Fixed Capital Formation*	28.8	18.4	42.0	17.7	7.8	187.5	18.3
8. *Changes in Stocks* ..	0.1	0.1	3.0	1.3	—	11.4	1.1
9. Gross Expenditure of the Economy (6 + 7 + 8)	**156.7**	**100.0**	**237.2**	**100.0**	**8.6**	**1,024.8**	**100.0**

Source : Planning Bureau.

1.2 Gross Fixed Capital Formation

Gross fixed capital formation increased from £28.8 mln. in 1966 to £42.0 mln. by 1971 or at an annual rate of growth of 7.8%. Although the rate of growth is slightly less than the growth rate of GDP, it is worth noting that during the Plan period the economy allocated sufficient resources for fixed capital formation so as to sustain a high rate of growth. Thus, an amount of £187.5 mln. was channelled to fixed capital formation, which represents 18.3% of available resources. Although it is difficult to decide on the optimum level of investment allocation, which depends on a variety of factors, it may be said that the rate of fixed investment achieved by the economy is quite satisfactory. The attainment of a higher rate of economic growth than planned with only a slightly larger volume of fixed investment (£187.5 mln. *vis-a-vis* £186 mln. estimated in the Second Plan) should be attributed, *inter alia*, to the existence of unutilized productive capacity.

In addition to fixed capital formation, during the Second Plan period £11.4 mln. were allocated to the increase of stocks.

2. Anticipated Developments during the Third Plan

Gross National Product is planned to increase at an annual rate of growth of 7.2%, and to rise from £251.4 mln. in 1971 to £355.2 mln. in 1976 (¹). On the other hand, available resources of the economy are anticipated to grow at an annual rate of growth of 7.3% during the same period. Thus, available resources are expected to increase from £262.2 mln. in 1971 to 372.3 mln. in 1976. Despite the expected slowing down of net transfers, foreign borrowing is anticipated to rise from £4.0 mln. in 1971 to £9.9 mln. in 1976. Total foreign resources will increase from £10.8 mln. in 1971 to £17.1 mln. in 1976 and thus increase their contribution to total resources from 4.1% in 1971 to 4.6% in 1976. Table 2 depicts the projected available resources and the gross expenditure of the economy during the Third Plan period.

Available Resources and Gross Expenditure of the Economy, 1971 and 1976

(At Constant 1970 Prices—£mln.)

TABLE 2

	1971		1976		Annual Rate of Growth (%)	1972–1976	
	Amount	Share (%)	Amount	Share (%)		Amount	Share (%)
1. GDP at Market Prices	244.1	93.1	348.8	93.7	7.4	1,530.6	93.7
2. Net Factor Income from Abroad ..	7.3	2.8	6.4	1.7	—2.6	31.1	1.9
3. GNP (1+2) ..	**251.4**	**95.9**	**355.2**	**95.4**	**7.2**	**1,561.7**	**95.6**
4. *Net Borrowing from Abroad and Net Transfers*	10.8	4.1	17.1	4.6	9.6	71.8	4.4
4.1 Net Transfers ..	6.8	2.6	7.2	1.9	1.0	35.2	2.2
4.2 Net Borrowing (+)/Lending (—)	4.0	1.5	9.9	2.7	19.9	36.6	2.2
5. Gross Available Resources (3+4) ..	**262.2**	**100.0**	**372.3**	**100.0**	**7.3**	**1,633.5**	**100.0**
6. *Consumption Expenditure* ..	206.3	78.7	290.2	78.0	7.1	1,274.6	78.0
6.1 Private ..	176.9	67.5	248.3	66.7	7.0	1,086.9	66.5
6.2 General Government	29.4	11.2	41.9	11.3	7.3	187.7	11.5
7. *Gross Fixed Capital Formation*	52.7	20.1	80.0	21.5	8.7	350.0	21.4
8. *Changes in Stocks* ..	3.2	1.2	2.1	0.5	—	8.9	0.6
9. Gross Expenditure of the Economy (6+7+8)	**262.2**	**100.0**	**372.3**	**100.0**	**7.3**	**1,633.5**	**100.0**

Source : Planning Bureau.

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(1) All economic magnitudes in this section referring to the Third Plan are given at 1970 prices.

As will be seen from Table 2, during the 1972–1976 period out of the total available resources an amount of £1,274.6 mln. or 78.0% will be used to finance consumption expenditure, while the remaining 22.0% will be used to finance fixed investment and changes in stocks. It is also anticipated that £1,561.7 mln. of total available resources will be of internal and the balance of £71.8 mln. will be of external origin.

2.1 Consumption Expenditure

Aggregate consumption expenditure is projected to increase from £206.3 mln. in 1971 to £290.2 mln. in 1976, i.e. by an annual growth rate of 7.1%, which is slightly less than the rate of growth of gross expenditure of the economy; thus its share will decrease marginally from 78.7% in 1971 to 78.0% by 1976.

General Government consumption expenditure is expected to increase from £29.4 mln. in 1971 to £41.9 mln. in 1976, or at an annual rate of growth of 7.3%. On the other hand private consumption is anticipated to reach the level of £248.3 mln. by 1976, that is to increase by an annual rate of £7.0%, which is in line with the policy objective to effect a substantial increase in the standard of living of the population. Overall, however, the share of private consumption to gross expenditure is expected to decline from 67.5% in 1971 to 66.7% in 1976, a trend which is in line with the policy objective to channel more resources for investment purposes.

2.2 Gross Fixed Capital Formation

By the end of 1976 21.5% of available resources will be used to finance fixed capital formation compared with 20.1% in 1971. Thus, the economy will be devoting a larger part of its disposable resources to fixed capital formation. Both the public and the private sectors will participate in this stepping up of investment activity. In addition £8.9 mln. will be invested in stocks.

CHAPTER 5

INVESTMENT AND DEVELOPMENT EXPENDITURES

1. The Second Plan Period

1.1 Investment Performance

The Second Plan estimated fixed investment requirements for the period 1967–1971 at £186.0 mln. at constant 1966 prices. As already seen, the volume of investment realized was of the order of £187.5 mln. at constant 1966 prices or £235.3 mln. at 1970 prices. The realized sectoral distribution of investment, however, was not in all cases in accordance with the targets set ; the electricity, wholesale and retail trade, dwellings and public administration sectors overfulfilled their targets, but other sectors lagged behind. The sectoral targets and the actual investment performance of the various economic sectors during the Second Plan period appear in Table 1.

Planned and Realised Fixed Investment by Sector 1967–1971

(At Constant 1966 Prices—£mln.)

TABLE 1

Sector	Planned	Realised	Actual Share in Total (%)
1. Agriculture, etc.	24.0	16.8	8.9
2. Mining and Quarrying	5.0	4.6	2.4
3. Manufacturing	27.0	25.9	13.8
4. Construction	10.0	5.0	2.7
5. Electricity, Gas and Water	6.0	11.0	5.9
6. Transport and Communication	40.0	34.7	18.5
7. Wholesale and Retail Trade	7.0	10.7	5.7
8. Dwellings	42.0	61.3	32.7
9. Public Administration and Defence	2.0	2.2	1.2
10. Other Services	23.0	15.3	8.2
Total	**186.0**	**187.5**	**100.0**

Source : Planning Bureau.

Both the public and the private sectors have contributed to the realization of the above large volume of fixed investment. Despite the overheating of the economy at times and the need in such cases for the public sector to exercise its compensatory role, its overall performance has been creditable. During the Second Plan period, investment in fixed assets by the public sector is estimated at about £38 mln.(1) which represents about 76% of the originally planned target of almost £50.0 mln. It is significant to note that Government direct investment increased from about £2.8 mln. in 1966 to £5.4 mln. in 1971, a development which is indicative of Government's accelerated ability to formulate and implement fixed investment development projects. On the other hand, the three Public Corporations mentioned surpassed their targets and invested £12.9 mln. compared with £9.6 mln. envisaged in the Second Plan.

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(1) Includes direct investment by Government, E.A.C., CY.T.A. and C.B.C. and loans and financial assistance extended to other public bodies by Government for specific investment projects. The contribution of the latter bodies is included under private investment because of lack of information.

The private sector displayed a very dynamic investment behaviour. Investment by the private sector is estimated at £149.5 mln. as opposed to the Second Plan forecast of £136 mln.

1.2 Development Expenditures

Development expenditures, which besides fixed investment include other items of expenditure of a developmental nature, expanded substantially during the Second Plan period as compared with the First Plan. Thus, development expenditures by the public sector amounted to £61.5 mln. out of which £45.8 mln. were incurred by Government and the remaining £15.7 mln. by the Public Corporations (Table 2). As emphasized in the Second Plan, the target of development expenditures does not represent a fixed commitment ; it must be reviewed from time to time in the light of developments in the private sector in order to avoid overheating of the economy and to ensure growth with stability. Thus, the level of realized total public development expenditures of £61.5 mln. compares favourably with the target of £66.6 mln. set in the Plan. The performance has in fact been creditable. Total public development expenditures expanded by 59.4% and total Government development expenditures by 71.5% compared with the First Plan. The degree of implementation of the Government development programme was more than 80%, and that of the public sector as a whole more than 92%.

Details of the various developmental activities undertaken are reviewed in the appropriate Chapters. Table 2, indicates that there was a substantial increase in development expenditures in almost all fields. The bulk of expenditures was absorbed by the broad agricultural and water development sector. The need to develop and preserve water resources and to expand agricultural output and improve productivity underlines this policy. Expenditures on transport and communication doubled compared with those of the First Plan as a result of the extensive port development and the acceleration of the highway programmes. Expenditures on tourism were also stepped up considerably. Similarly, in all other fields development expenditures significantly expanded, especially in the fields of education and training, health, town planning and municipal projects.

The loan component of realized development expenditures was £9.2 mln. The main beneficiaries of the long-term, low interest credit provided by the Government were the sectors of agriculture and water-development, tourism, education and rural development. Thus, besides direct Government investment expenditures, the Development Budget provided loans to public bodies (Municipalities, Water Boards, Improvement Boards, School Committees, etc.) to finance their investment programmes. In addition, it provided the private sector with financial resources necessary for investment projects both in the form of loans and in the form of capital transfers. It is estimated that public and private investment generated from development expenditures was of the order of £49.4 mln. It could thus be said that the development expenditure programme was heavily investment oriented, especially if account is taken of the fact that the remaining expenditures were incurred mainly in connection with studies and activities for the promotion of investment projects and programmes.

Planned and Realized Development Expenditures during the Second Plan, 1967–1971

TABLE 2

(At Current Prices—£000's)

	Planned	Realized
1. Agriculture and Water Development	**19,200**	**16,023**
1.1 Agriculture	5,050	4,975
1.2 Animal Husbandry	1,160	769
1.3 Agricultural Research Institute	750	867
1.4 Water Use Improvement	1,900	833
1.5 Veterinary Services	440	353
1.6 Forest Development	850	776
1.7 Fisheries Development	400	315
1.8 Water Development	8,650	7,135
2. Rural Development	**1,840**	**1,969**
3. Mining (Geological Survey)	**500**	**468**
4. Manufacturing	**2,500**(1)	**1,341**(2)
5. Commerce	**800**	**808**
6. Tourism and Antiquities	**5,500**	**3,568**
6.1 Tourism	5,150(3)	3,172(2)
6.2 Antiquities	350	396
7. Transport and Communications	**15,950**	**12,262**
7.1 Roads and Highways	6,200	5,072
7.2 Ports	7,600	5,239
7.3 Airports	1,800	1,771
7.4 Postal Services	150	147
7.5 Other	200	33
8. Education (incl. Cultural Development)	**3,000**(4)	**2,481**
9. Other Training Institutions and Programmes	**1,130**	**1,148**
9.1 Cyprus Productivity Centre	250	203
9.2 Hotel and Catering Institute	430	378
9.3 School of Public Administration and Training Abroad	150	64
9.4 Higher Technical Institute	200	358
9.5 Other Labour Training Programmes and Services	100	145
10. Other Social Services	**1,830**	**944**
10.1 Medical and Health	1,500	695
10.2 Welfare Services	80	95
10.3 Justice and Correctional Institutions	250	154
11. Town Planning and Municipal Projects	**3,000**	**2,188**
11.1 Town Planning	1,000	919
11.2 Municipal Projects	2,000	1,269
12. Public Buildings	**800**	**260**
13. Other Services	**950**	**1,621**
14. Loans to the Cyprus Development Bank	—	**700**
Total Government Development Expenditures	**57,000**	**45,781**
15. Public Corporations	**9,600**	**15,715**
15.1 Electricity Authority	6,000	10,009
15.2 Telecommunications Authority	2,800	5,367
15.3 Broadcasting Corporation	800	339
Total Public Development Expenditures	**66,600**	**61,496**

Source : Planning Bureau

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(1) This amount included a provision of £1.6 mln. for the Oil Refinery for which only £650,000 were needed during the Second Plan period.

(2) Loans to manufacturing industry and additional loans for tourist development have been provided through the Cyprus Development Bank.

(3) This amount included a provision of £2.5 mln. mainly for the "Golden Sands", for which only a small amount was spent during the Plan period.

(4) Includes £600,000 for a stadium, an activity which was eventually taken over by the Cyprus Athletics Organisation.

1.3 Development Expenditures from Other Sources—Foreign Technical Assistance

Actual development expenditures were in fact higher if account is taken of the fact that, besides Government allocations, technical assistance in the form of experts, fellowships, scholarships, equipment, etc. was received from the United Nations and its Specialized Agencies as well as from friendly foreign Governments under bilateral technical assistance arrangements.

The U.N. technical assistance was provided under a multiplicity of programmes and amounted during the Second Plan period to **$10,963,000.** Valuable has also been the technical assistance rendered to Cyprus under bilateral aid programmes. Table 3 provides details of U.N. technical assistance expenditure during the 1967–1971 period. As shown in this table, the bulk of the U.N. assistance was provided under the Special Fund component of the U.N. Development Programme. Part of the assistance was intended for the completion or continuation of certain projects (Agricultural Research Institute, Groundwater and Mineral Resources Survey, Productivity Centre, Water Planning) and part for the commencement and continuation of other projects (Higher Technical Institute, Hotel and Catering Institute, Strengthening of the Veterinary Services, Livestock Improvement). The assistance was used mainly in three important fields, viz. agriculture, tourism and manpower training.

There is no doubt that the technical assistance programmes have had a favourable impact on the course of our economic development. Fellowships and scholarships have helped the Island to overcome one of the most serious bottlenecks, i.e. the shortage of skilled and qualified personnel. On the other hand, the assistance given in the form of experts, advisers, equipment, etc. has helped in the solution of certain basic problems and in the establishment of institutions whose contribution to economic and social development will continue in the years ahead.

TABLE 3

Realized Expenditures from U.N. Sources, 1967-1971

	$000's
1. **Regular Programmes**	**205**
2. **UNDP Technical Assistance Component**	**466**
3. **UNDP Special Fund**	**5,352**
3.1 Agricultural Research Institute	**113**
3.2 Groundwater and Mineral Resources Survey	**604**
3.3 Surveys, Demonstrations and Planning of Water Resources Utilization	**1,535**
3.4 Livestock Production Improvement (Margo)	**173**
3.5 Strengthening of the Veterinary Services	**381**
3.6 Cyprus Productivity Centre	**1,102**
3.7 Higher Technical Institute	**929**
3.8 Hotel and Catering Institute	**519**
4. **World Food Programme (Mixed Farming, Soil Conservation and Tree Planting, School and Hospital Feeding Programme, Drought Relief)**	**4,940**
Total	**10,963**

Source : UNDP Local Office. Planning Bureau.

1.4 Investment Policy

In addition to the measures taken and the facilities provided in specific sectors, as set out in the relevant Chapters, to encourage private investment, the Government, as envisaged in the Second Plan, also took other measures. Thus, technical assistance, advice and information was extended to private entrepreneurs especially with regard to the identification of investment opportunities. Infrastructural works were executed in order to generate external economies and hence to increase the profitability of productive units. Credit facilities and subsidies were provided. The Income Tax Law was amended to provide for increased initial allowances in respect of investments in machinery and installations as well as in industrial buildings and hotels ; tax concessions were granted in respect of income deriving from dividends from public companies, Government bonds, etc ; small industrial and commercial companies were encouraged, through a reduction in the tax rate, to retain part of their profits in order to expand their operations etc. Double taxation agreements were also concluded with more countries and foreign firms were encouraged to invest in Cyprus in collaboration with local enterprises. In spite of the credit restrictions imposed from time to time on banking institutions for the purpose of short-term management of the economy, care was taken to ensure that any adverse effects on investment activity in the most productive sectors might be avoided. In this connection mention should be made of the increasing role played by the Cyprus Development Bank in the field of long-term financing and technical advice to industry, tourism and other sectors. For other measures taken for the purpose of mobilizing savings for investment purposes reference is invited to the Chapter on Financing.

2. The Third Five-Year Plan

2.1 Objectives of Investment Policy

The aims of investment policy during the Third Plan period will be to enhance the profitability of investment, to avoid wastage of resources and to encourage the inflow of foreign capital, know-how and new technology to Cyprus. In this connection the co-operation of local with foreign firms will be further promoted.

2.2 Fixed Investment Requirements of the Third Plan

The size of a five-year plan is usually determined by the level of fixed capital formation provided therein. Investment in fixed capital is the principal means whereby the Plan aims to sustain the high rate of growth of the economy. In addition, new investment also introduces in the production process modern technological developments which are instrumental in the improvement of productivity of both capital and labour. Moreover, the investment programme indicates the desired pattern of development and incorporates the priorities of the Plan.

The investment programme has been determined after a detailed assessment of the needs and priorities of the economy and of each sector separately having regard to the output targets set and the desirability of modernizing and increasing the productivity of the economy. On the other hand, the investment programme takes into account certain constraints such as the feasible growth of the construction sector, which is the key-sector for fixed capital formation, and the financing ability of the economy both from internal and external sources. Furthermore, consumption expenditure, which is the main contributing factor to welfare and is negatively ralated with domestic savings, cannot be unduly squeezed. Thus, the overall size of investment depends on what is permissible to allow for consumption expenditure out of total available resources.

Taking into account the above limiting factors and in order to sustain the high rate of growth planned it has been estimated that during the period 1972–1976 an amount of £350.0 mln., at constant 1970 prices, will have to be invested by the private and public sectors in fixed capital formation. This volume of fixed investment represents an increase of 48.7% compared with the level of investment of £235.3 mln. realized during the Second Plan period. The distribution of anticipated investment by sector is shown in Table 4.

Substantial increase in investment activity is envisaged in almost all sectors. The only sector which is likely to show only a slight increase is mining and quarrying ; manufacturing, public administration and services (tourism) incorporates the bulk of the increase. The planned distribution of investment by sector reflects mainly the expansion prospects and the estimated incremental capital output ratio of the relevant sector. However, in some fields the estimated capital requirements also reflect the existence of underutilized capacity.

With regard to the yearly distribution, total investment is expected to increase from £52.7 mln. in 1971 to £80.0 mln. by 1976, or at an annual rate of 8.7%.

Actual and Planned Fixed Investment by Sector, 1967–1971 and 1972–1976

(At Constant 1970 *Prices—£'mln.)*

TABLE 4

	1967–71	1972–76	Share in Total (%)		Change in 1972–76 (1967–71=100)
			1967–71	1972–76	
1. Agriculture, etc.	20.8	28.0	8.8	8.0	134.6
2. Mining and Quarrying	5.6	6.0	2.4	1.7	107.1
3. Manufacturing	31.6	57.0	13.4	16.3	180.4
4. Construction	6.1	8.0	2.6	2.3	131.1
5. Electricity, Gas and Water	13.6	20.2	5.8	5.8	148.5
6. Transport and Communication	43.3	58.8	18.4	16.8	135.8
7. Wholesale and Retail Trade	13.2	19.0	5.6	5.4	143.9
8. Dwellings	79.5	106.0	33.8	30.3	133.3
9. Public Administration	2.7	5.5	1.2	1.6	203.7
10. Services	18.9	41.5	8.0	11.8	219.6
Total	**235.3**	**350.0**	**100.0**	**100.0**	**148.7**

Source : Planning Bureau.

2.3 Public and Private Fixed Investment

The need to improve and modernize the infrastructure and to expand social services necessitates an increasing participation of Government in total investment. Thus, the Government is anticipated to invest directly an amount of £40.2 mln., or 11.5% of total fixed capital formation. The Government will also finance through loans or capital transfers about £6.8 mln. of investment to be undetaken by Public Bodies, such as Municipalities, Improvement Boards, School Committees, Water Boards, etc. in addition to direct investment by these bodies, which is shown under private investment. Increased fixed investment activity will also be undertaken by Public Corporations and other Public Bodies. The Electricity Authority of Cyprus, the Cyprus Telecommunications Authority, the Cyprus Broadcasting Corporation, the Grain Commission, the Cyprus Athletics Organization, the Sewerage Boards and the Fair Authority are envisaged to invest an amount totalling £25.9 mln. Thus, the public sector is anticipated to take up £72.9 mln. or 20.8% of total fixed investment.

On the other hand, during the Third Plan period, private investment in fixed capital formation is expected to amount to £277.1 mln.

2.4 Development Expenditures

During the Third Plan period, the planned public sector development expenditures at current prices will be twice those realized during the Second Plan period. These are envisaged to reach £120.7 mln., out of which £91.2 mln. will be incurred by Government and £29.5 mln. by the Public Corporations and other Public Bodies. The planned targets of development expenditures have been determined after a careful study of various projects and programmes and assessment of the needs of various sectors. Details of the allocation of these expenditures appear in Table 5 and in the appropriate Chapters.

It will be seen from the above table that agriculture and water development will continue to absorb the bulk of the expenditure ; 30.0% of total Government expenditure has been earmarked for the development of these important sectors. Further development of transport and communications is anticipated to absorb 25.1% of Government development expenditures, despite the fact that substantial investment, especially in the field of port development, was made during the Second Plan period. Increasing emphasis will continue to be placed on tourist development. Government expenditure in this field is planned to account for 9.8% of the total allocations. The really significant feature of the programme, however, lies in its heavy emphasis on social services. Expenditure on health is expected to increase its share in total Government development expenditures from 1.5% during the Second Plan to about 4.4% during the Third Plan period. Educational development expenditure will likewise increase its share from 5.4% to 6.6% respectively. In addition the Plan makes provision for £1.2 mln. to implement a programme for the improvement of the housing conditions of the lower income groups. Finally, the Government's development programme provides for a doubling of the amount of low interest long-term loans to be provided by Government, especially for education, tourism and for further support of the Cyprus Development Bank.

Planned Development Expenditures by the Public Sector, 1972-1976

TABLE 5

(At Current Prices—£000's)

1. Agriculture and Water Development	**27,355**
1.1 Agricultural Development	7,300
1.2 Animal Husbandry	1,700
1.3 Agricultural Research	1,300
1.4 Land Consolidation	600
1.5 Meteorology	200
1.6 Water Use Improvement	1,400
1.7 Veterinary Services	950
1.8 Forest Development	1,225
1.9 Fisheries Development	550
1.10 Water Development	12,130
2. Rural Development	**3,659**
3. Mining	**730**
4. Manufacturing	**2,823**
5. Commerce	**1,050**
6. Tourism and Antiquities	**9,700**
6.1 Tourism	8,900
6.2 Antiquities	800
7. Transport and Communications	**22,870**
7.1 Roads and Highways	11,500
7.2 Ports	8,200
7.3 Airports	2,280
7.4 Postal Services	390
7.5 Other (incl. Administration and Inland Transportation)	500
8. Education (incl. Cultural Development)	**6,000**
9. Other Training Institutions and Programmes	**1,800**
9.1 Cyprus Productivity Centre	300
9.2 Hotel and Catering Institute	650
9.3 State Scholarship Scheme and Training of Staff Locally and Abroad	260
9.4 Higher Technical Institute	400
9.5 Other Labour Training Programmes	190
10. Other Social Services	**4,550**
10.1 Medical and Health	4,000
10.2 Welfare Services	300
10.3 Justice and Correctional Institutions	250
11. Town Planning and Municipal Projects	**4,700**
11.1 Town Planning	1,500
11.2 Housing	1,200
11.3 Municipal Projects	2,000
12. Public Buildings	**1,000**
13. Other Services (incl. Machinery and Equipment, Preliminary Planning, etc.)	**3,500**
14. Loans to the Cyprus Development Bank	**1,500**
Total Government Expenditures	**91,237**
15. Public Corporations and Other Public Bodies	**29,458**
15.1 Electricity Authority	15,336
15.2 Telecommunications Authority	7,380
15.3 Broadcasting Corporation	1,742
15.4 Other Public or Semi-Public Bodies (e.g. Sewerage Boards, Grain Commission, Cyprus Athletics Organization, Fair Authority)	5,000
Grand Total	**120,695**

Source : Planning Bureau.

An amount of £29.5 mln. will be spent by various Public Bodies in the form of development expenditures. This includes, besides the development expenditure necessary to implement the electrification programme, to expand telephone network and improve broadcasting services, which are explained in detail in the relevant Chapters, provision for the establishment of a port silo, a trade fair, sewerage schemes and stadia.

Further analysis of planned development expenditure indicates that total public sector investment, at current prices, will amount to more than £87 mln. Direct Government investment is estimated at £48.5 mln., while investment by Public Corporations at £29.5 mln. Capital transfers and loans to other Public Bodies are anticipated to reach £8.2 mln., while capital transfers to the private sector are estimated to be around £0.7 mln. In addition it is anticipated that Government will invest £2.5 mln. out of the Ordinary Budget. Thus, as in the case of the Second Plan, the public development expenditure programme during the Third Plan period will again be investment oriented.

2.5 Foreign Technical Assistance

It is expected that Government will continue to be assisted in implementing its development programme by international organizations and friendly Governments under multilateral and bilateral technical assistance arrangements.

With the introduction as from 1972 by the U.N. of the new procedures regarding the programming and utilization of U.N. assistance within an indicative planning figure, the share of Cyprus in the United Nations Development Programme, technical assistance in the form of experts, fellowships and equipment during the 1972–1976 period has been fixed at $ 5 mln. The new programming procedures have replaced the rather *ad hoc* approach of the past and have enabled us to plan ahead our requirements ; and this is expected to result in an even more fruitful utilization of technical assistance. In addition to the U.N.D.P., the World Food Programme also is expected to continue its support to a number of ongoing projects. Thus, the total assistance already approved for Cyprus by the U.N. family for the five-year period is estimated to be worth of $ 11 mln. to be allocated as in Table 6.

TABLE 6 **Anticipated Expenditures from U.N. Sources(1), 1972–1976**

	$000's
1. United Nations Development Programme	**5,000**
1.1 Surveys, Demonstration and Planning of Water Resources Utilisation	178
1.2 Livestock Production Improvement (Margo)	656
1.3 Strengthening of the Veterinary Services	365
1.4 Feasibility Studies for Irrigation Development in the Morphou/Tylliria Area	685
1.5 Vocational Training and Management Development (Productivity Centre)	588
1.6 Higher Technical Institute	310
1.7 Hotel and Catering Institute	590
1.8 Industrial Development	642
1.9 Other (individual experts, fellowships, equipment, etc.)	986
2. World Food Programme (Mixed Farming, Soil Conservation and Tree Planting, School and Hospital Feeding Programme, Drought Relief)..	**6,000**
Total	**11,000**

Source : Planning Bureau.

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(1) Over and above these expenditures, technical assistance is expected to be provided to Cyprus (in the form of experts, scholarships, fellowships, etc.) from bilateral and other multilateral sources of foreign aid.

2.6 Investment Policy

Investment policy during the Third Plan will be so designed as to improve further the economic environment within which private initiative manifests itself and operates. The policy will aim at :—

(*a*) Improving the profitability of investment. Government will continue its heavy investment programme in infrastructure, which will generate external economies, reduce costs and increase the return on investment. Furthermore, measures to prevent in certain cases the creation of excess capacity will be studied.

(*b*) Assisting the private sector at the pre-investment stage. Government will ensure that there is an adequate flow of information to the private sector regarding investment opportunities. A number of pre-investment diagnosic studies to identify opportunities will be undertaken and the results will be made available to the private sector. Feasibility techno-economic studies will also be commissioned by Government in important fields. In line with this policy, Government proposes to strengthen the project evaluation services of the relevant Departments. The proposed establishment of an extension service to offer technical assistance to industry must be viewed within this context.

(*c*) Ensuring that financing for productive investment and working capital is forthcoming through the banking system and other institutions and supplementing, where necessary, such financing through long-term credits. In this connection Government proposes to review the role of the Cyprus Development Bank.

Existing tax incentives are considered to be satisfactory, but their operation and effectiveness will be reviewed in order to find out whether any changes are needed.

2.7 Foreign Investment

Foreign investment will continue to be encouraged. Such investment is not only a means for supplementing domestic savings, but also a means for injecting into the economy modern technology and know-how, for promoting projects and meeting needs which cannot be met from local sources.

Co-operation between local and foreign firms especially in the form of joint ventures will be encouraged. Approval to invest carries with it permission to transfer abroad profits, dividends and interest after provision for tax. Repatriation of capital is also given equally favourable treatment. Cyprus has also acceded to the I.B.R.D. convention on the settlement of investment disputes and has concluded double taxation agreements with a number of countries, a policy which will continue to be followed during the Third Plan. The proposed establishment of free zones/industrial estates will enhance the locational advantages of Cyprus. These and other advantages will be widely publicised during the Plan period in an informative pamphlet which will also explain the procedures for investing in Cyprus, contain a summary of relevant legislative provisions as well as other data which may be useful to prospective foreign investors.

CHAPTER 6

FINANCING OF THE PLAN

1. Developments during the Second Plan

1.1 Domestic Savings

As shown in Table 1, during the Second Plan period gross domestic savings increased at a faster pace than disposable income and as a result the share of domestic savings to disposable income increased from 19.0% in 1966 to 20.5% in 1971. For the whole period of the Plan, domestic savings represented 20.1% of disposable income, which compares favourably with the 18.7% rate achieved during the First Plan period. This development suggests that the marginal propensity to save increased during the Second Plan period as compared with the First Plan. In fact, the marginal propensity to save is estimated to have risen from 21.1% during 1962–1966 to 22.6% during 1967–1971. This satisfactory improvement may be attributed to a variety of factors, the most important of which are the increase in per capita income, the favourable investment climate and the impact of fiscal incentives, the issue of development stocks and saving bonds and, to a lessser extent, the tightening of hire purchase restrictions.

Further analysis of the composition of savings, presented in Table 2, reveals that the bulk of savings is done by the private sector, which includes households and the business sector, while the Government, including the Public Loans Fund, contributed 15.7% of total domestic savings.

Gross Domestic Savings, 1961–1971

(At Current Prices—£mln.)

TABLE 1

	1961	1966	1971	Total 1962–66	Total 1967–71	Annual Rate of Growth (%)	
						1962–66	1967–71
1. Gross Domestic Savings	21.4	29.9	54.6	129.4	217.6	6.9	12.8
2. Disposable Income(1)	114.5	157.7	266.6	692.6	1,085.2	6.6	11.1
3. (1÷2)×100	18.7	19.0	20.5	18.7	20.1	—	—

Source : Planning Bureau.

Domestic Savings by Origin, 1966 and 1971

(At Current Prices—£mln.)

TABLE 2

	1966	1971	Total 1967–71		Annual Rate of Growth (%) 1967–71
			Amount	Share (%)	
1. *Gross Domestic Savings Analysed by Origin :*	29.9	54.6	217.6	100.0	12.8
2. Depreciation(2)	6.9	11.7	47.7	21.9	10.6
3. Government Sector	6.7	7.4	34.2	15.7	2.0
3.1 Government	6.4	6.8	31.6	14.5	1.2
3.2 Public Loans Fund	0.3	0.6	2.6	1.2	14.9

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(1) Disposable Income is defined here as GNP plus current transfers from abroad (net).

(2) Including depreciation of Public Corporations.

TABLE 2.—*contd.*

	1966	1971	Total 1967–71		Annual Rate of Growth (%) 1967–71
			Amount	Share (%)	
4. Funds Administered by Government	1.2	1.4	4.2	1.9	3.1
4.1 Social Security Funds . .	1.2	1.2	3.6	1.6	—
4.2 Other Funds . .	—	0.2	0.6	0.3	—
5. Public Corporations (1) . .	0.6	1.0	4.6	2.1	10.8
6. Private Sector . .	14.5	33.1	126.9	58.4	18.0
7. % of Private Savings to Total Domestic Savings . .	48.5	60.6	—	—	—

Source : Planning Bureau.

1.2 Savings from External Sources

Despite these encouraging developments, as may be seen from Table 3, domestic savings expanded at a slower pace than investment expenditure. Thus, while in 1967 domestic savings were more than sufficient to finance investment, in 1971 domestic savings financed only 89.1% of total investment. This development indicates that savings from external sources now play a more important role in supplementing domestic savings. The main explanation for this is to be found in the increased requirements of the economy in imported investment goods and the price increases of such goods (²).

Financing of the Plans, 1962–1966 and 1967–71

(*At Current Prices—£mln.*)

TABLE 3

	1966	1967	1968	1969	1970	1971	Total		Annual Rate of Growth (%)	
							1962–1966	1967–1971	1962–1966	1967–1971
1. Investment Expenditure . .	**28.9**	**34.9**	**37.2**	**49.3**	**55.3**	**61.3**	**130.1**	**238.0**	**7.6**	**16.2**
1.1 Fixed Capital Formation . .	28.8	31.3	37.3	45.8	53.4	57.9	122.6	225.7	9.6	14.9
1.2 Changes in Stocks . .	0.1	3.6	—0.1	3.5	1.9	3.4	7.5	12.3	—	—
Financed by :										
2. Gross Domestic Savings	**29.9**	**36.1**	**36.1**	**44.6**	**46.2**	**54.6**	**129.4**	**217.6**	**6.9**	**12.8**
2.1 Net Domestic Savings	23.0	28.4	27.7	35.0	35.9	42.9	99.5	169.9	6.8	13.3
2.2 Depreciation	6.9	7.7	8.4	9.6	10.3	11.7	29.9	47.7	7.5	11.2
3. Savings from External Sources	**—1.0**	**—1.2**	**1.1**	**4.7**	**9.1**	**6.7**	**0.7**	**20.4**	—	—
4. % of Investment Expenditure Financed by Savings from External Sources	—3.5	—3.4	3.0	9.5	16.5	10.9	0.5	8.6	—	—

Source : Planning Bureau.

(¹) Net surplus only (excl. depreciation).

(²) Savings from external sources, as defined here, correspond to the current account deficit plus net capital transfers.

1.3 Financing of the Second Plan

As will be seen from Table 3, investment expenditure (including changes in stocks) during the period of the Second Plan amounted to £238.0 mln. at current market prices. Gross domestic savings reached the level of £217.6 mln. and thus financed 91.4% of total investment expenditure. Savings from external sources financed the remaining £20.4 mln. It will be observed that unlike the First Plan, during the Second Plan an increasing amount of savings from external sources was necessary to finance the enlarged investment requirements of the economy. Although this reliance on the external sector may be regarded as a rather unfavourable development compared with the First Plan, it was perhaps the inevitable concomitant of the accelerated rate of growth. And given the country's comfortable foreign asset position and the very low level of foreign indebtedness, this development should give no cause for concern.

Although, as mentioned before, the bulk of investment was financed from domestic savings, it must be pointed out that a significant amount of savings emanates from resources of foreign origin, such as net factor income and net transfers from abroad, which affect disposable income, consumption and savings. During the Second Plan period net factor income from abroad amounted to £38.7 mln. and net transfers to £25.3 mln., which together with net borrowing of £20.0 mln. add up to £84.0 mln. of income and/or savings which are directly or indirectly influenced by foreign factors. It may thus be said that only £154.0 mln. or 64.7% of total savings was generated entirely from domestic resources. This compares favourably with the situation during the First Plan when only 62% of total savings was generated entirely from domestic resources.

1.4 Net Capital Inflow

Although the requirements of the economy in foreign savings were not substantial during the Second Plan period there was a significant inflow of foreign capital, which assisted, *inter alia*, in building up further the country's foreign exchange reserve position. During the period under review net capital inflow amounted to £67.2 mln. (¹)

1.5 Savings and Investment by Sector

As already said, the economy as a whole was a net borrower in the sense that total investment expenditure exceeded domestic savings. The private sector and the Public Corporations were the two borrowing sectors. Their total deficit amounted to £35.2 mln., which was covered partly by the surplus of the Government sector, the savings of funds administered by Government and by the net inflow of savings from external sources. Although the savings of Government increased by a much slower pace than its investment expenditure, the Government sector remained a net surplus sector. Its investment expenditure amounted to £23.6 mln. while its savings amounted to £34.2 mln. The surplus generated by the Government sector amounted to £10.6 mln. Finally, the surplus of funds administered by Government amounted to £4.2 mln.

(¹) Including net errors and omissions.

Investment expenditure of Public Corporations increased at a much faster pace than their savings, which, nevertheless, increased at a sufficiently high rate. Thus, this sector remained throughout the period a net deficit sector. It was necessary, therefore, for Public Corporations to borrow a net amount of £6.0 mln. from the remaining sectors in order to supplement their own savings amounting to £10.1 mln.

Savings of the private sector increased slightly faster than its investment expenditure, but the sector also remained throughout the period a net deficit sector. Total private savings amounted to £169.1 mln., but these were £29.2 mln. less than their investment expenditure.

1.6 Public Finance

The public sector has an important role to perform in a rapidly growing economy. In addition to the provision of basic services, the Government has to devote annually an increasing amount of resources for economic development thus creating the necessary conditions for future growth. For this reason, it is necessary not only to keep current expenditures within reasonable limits, but also to operate a tax system which secures the required public revenues. In this manner Government generates sufficient public savings to finance its investment and other developmental activities.

Total Government domestic revenues (including receipts of the Public Loans Fund) amounted to £184.3 mln. during the period 1967–1971. On the other hand, ordinary expenditures amounted to £142.3 mln., thus leaving a surplus on current account of £42.0 mln. to finance its investment and other development expenditures. As already shown, total Government development expenditures during this period amounted to £45.8 mln. So, Government ordinary and development activities resulted in a small deficit of £3.8 mln. This deficit occurred gradually during the last few years of the Plan. To cover this deficit the Government resorted to internal and external borrowing to the tune of £7.8 mln., out of which £5.5 mln. represent proceeds from internal issues of development stock and saving bonds and £2.3 mln. represent external borrowing.

Government's internal debt policy during the Second Plan aimed, firstly, to mop up excess liquidity in the economy and, secondly, to mobilize and channel domestic savings towards priority investment fields. Total public debt (external and internal) was reduced from £14.7 mln. in 1966 to £12.3 mln. in 1971. Public debt as a percentage of G.D.P. decreased from 10.7% in 1966 to 5.3% in 1971. Moreover, if account is taken of the amount set aside in sinking funds, this percentage decreased from 5.8% in 1966 to 3.5% in 1971, which is very low by international standards.

Domestic public debt stood at £3.7 mln. during the first two years of the Plan. As a result of the issue of development stock and savings bonds in the following years, domestic public debt reached £8.0 mln. in 1971. On the other hand, foreign public debt, including foreign contractors' credit, decreased from £11.0 mln. in 1966 to £4.3 mln. in 1971. Finally, publicly guaranteed debt increased from about £6.0 mln. in 1966 to about £9.0 mln. in 1971.

The external debt servicing burden in the form of interest and amortization payments of public or publicly guaranteed debt is very low. The debt burden in 1971 was about 0.9% of G.N.P., 2.0% of the foreign exchange reserves and 2.5% of the exports of goods and services in that year.

1.7 Monetary and Credit Policies

Monetary and credit policies are not only powerful tools for regulating aggregate effective demand and, therefore, for preserving internal and external monetary stability, but also affect the volume, mobilization and channelling of savings and, hence, the financing of investment. This is especially true in the case of Cyprus, where, in the absence of a developed capital market, the bulk of savings is channelled through the commercial banking system.

Private sector's holdings of liquid assets, comprising currency and deposits at deposit money banks, rose from £75.3 mln. at the end of 1966 to £142.6 mln. at the end of 1971, i.e. by an annual rate of 13.6%. Money supply on the other hand increased by 12.5% per annum, having risen from £25.9 mln. at the end of 1966 to £46.7 mln. at the end of 1971, while GNP at current prices and in real terms grew at 11% and 8.4% per annum respectively during the same period. The rate of growth was not, however, uniform throughout the period and it was therefore necessary for the monetary authorities to intervene at times. The total volume of liquidity is largely influenced by the money creating ability of the banking system and does not necessarily reflect the real savings of the private sector. The form in which the private sector holds its liquid assets throws some light on the ability of the banking system to finance fixed investment.

As will be seen from Table 4, during the first three years of the Plan the shares of primary and secondary liquidity remained fairly constant, whereas during 1970 the share of secondary liquidity declined. The lack of sufficient interest rate differentiation apparently left savers indifferent as to the form in which they wished to hold their savings throughout this period. In 1971, however, there was an improvement in the share of secondary liquidity ; time deposits increased substantially partly as a result of the continued inflow of funds, but also because of sharper interest rate differentiation in favour of time deposits.

The period under review was marked with rich experience in the field of monetary and credit policies. For a number of years up to 1968 the economy was growing at a high rate, prices were stable and the current account position of the balance of payments was strong. Fiscal policy and occasional debt management proved to be adequate measures in regulating the supply of liquid assets. Two measures introduced during the first two years of the Second Plan, i.e. the introduction of obligatory bank reserve requirements of 2% in late 1967 and the more active use of debt management in late 1968 were meant to acquaint the banks with the instrument in the first case and to provide a new investment outlet to commercial banks, following the repatriation of their liquid foreign assets in excess of their normal working balances, in the second. The inflationary pressures which ensued after the devaluation of the Cyprus pound in November, 1967, and which were strengthened in 1968 and early 1969, compelled the monetary authorities to introduce a ceiling on the growth of bank lending during the second half of the latter year and the whole of 1970. At the same time, hire purchase regulations were tightened, long-term Government development stocks were issued and the obligatory reserve requirement was raised from 2% to 10%. During this period the rediscount operations of the Central Bank were brought into functioning in order to assist individual banks with their liquidity problems. At the same time the Central Bank endeavoured to pursue a more active interest rate policy by increasing the discount rate and raising its deposit rates to the banks and the treasury bill yield, aiming towards raising the level of interest rates, both to reduce the attraction of foreign capital markets to domestic investors and to encourage the banks to follow a more flexible interest rate policy. Finally, at the beginning of 1971 direct credit controls were abandoned and the system relied on liquidity requirements as a means of regulating credit expansion. Banks were requested to maintain a minimum liquidity ratio of 25% and later 28%, while the obligatory reserve requirement was increased to 15%.

TABLE 4 **Total Liquidity Held by the Private Sector, 1966–1971**

	1966		1967		1968		1969		1970		1971	
	£ mln	%	£ mln	%	£ mln	%	£ mln	%	£ mln	%	£ mln	%
1. Primary Liquidity	**25.9**	**34.4**	**29.1**	**34.6**	**32.7**	**34.4**	**38.0**	**34.9**	**42.6**	**35.9**	**46.7**	**32.7**
1.1 Currency	12.2	16.2	13.6	16.2	15.5	16.3	17.2	15.8	18.4	15.5	21.8	15.3
1.2 Demand Deposits	13.7	18.2	15.5	18.4	17.2	18.1	20.8	19.1	24.2	20.4	24.9	17.4
2. Secondary Liquidity	**49.4**	**65.6**	**55.1**	**65.4**	**62.3**	**65.6**	**71.0**	**65.1**	**76.1**	**64.1**	**95.9**	**67.3**
2.1 Savings Deposits	14.6	19.4	14.9	17.7	16.3	17.2	17.9	16.4	18.4	15.5	20.0	14.0
2.2 Time Deposits	34.8	46.2	40.2	47.7	46.0	48.4	53.1	48.7	57.7	48.6	75.9	53.3
Total	**75.3**	**100.0**	**84.2**	**100.0**	**95.0**	**100.0**	**109.0**	**100.0**	**118.7**	**100.0**	**142.6**	**100.0**

Source : Central Bank of Cyprus.

Cyprus was served during the Second Plan period by a well developed banking system which provided the bulk of credit required by the economy. In attempting to influence the allocation of credit, monetary authorities relied on persuasion rather than on strict directions to the banking sector. Resources available for bank lending increased substantially during the Plan period as a result of capital inflows from abroad, despite the counteracting effect exerted by Government on account of the cash surplus it generated. In the five-year period deposit money banks increased their credit from £57.8 mln. in 1966 to £97.8 mln. by the end of 1971, which was directed to almost every sector of the economy. At the same time the liquidity ratio of all banks increased from 21.8% in 1966 to 35.3% in 1971.

1.8 Measures to Increase, Mobilize and Channel Savings

During the Second Plan period, the effort was to increase savings and, more importantly, to divert and channel savings to priority fields, to finance productive investment in accordance with the needs and priorities of the Plan. As already seen, both the average and the marginal propensity to save showed a satisfactory increase.

Among the measures taken to promote the above objectives mention should be made of the amendments to the Income Tax Law, the repatriation of the surplus assets of Commercial Banks, the investment of part of the premiums of Insurance Companies locally, the issue of saving bonds and development stock with attractive terms directly or through guarantees for the issue of such stock, etc.

In its programme to channel savings to priority fields the Government resorted to various measures including the raising of funds through various means and channelling them mainly through the Loan Commissioners. As may be seen from Table 5, the priority fields of agriculture (including water development), tourism and industry received special attention in the provision of financial resources, along with the traditional spheres of Government loan activity.

TABLE 5

Loans Issued by the Loan Commissioners, 1967–1971

	£000's
1. Agriculture and Water Development	3,436
2. Rural Development	392
3. Cyprus Development Bank	700
4. Tourism	1,730
5. Education	1,410
6. Municipal Projects	1,269
7. Other	229
Total	**9,166**

Source : Planning Bureau.

Moreover, as provided in the Plan, the Cyprus Development Bank was given further support and encouragement in order to enable it to play an increasingly important role in providing long-term finance, carrying out feasibility studies and initiating or promoting projects. Thus, during the five-year period the Cyprus Development Bank approved long-term loans of the order of £3.9 mln. mainly for industry and tourism. Details of the amounts approved and disbursed by sector appear in Table 6.

TABLE 6

Loans Approved and Disbursed by C.D.B. by Sector, 1967–1971
(£000's)

	1967	1968	1969	1970	1971	Total 1967–71
1. Loans Approved	**303**	**643**	**784**	**1,159**	**1,010**	**3,899**
1.1 Manufacturing ..	178	233	399	759	617	2,186
1.2 Tourism	122	360	295	315	360	1,452
1.3 Other	3	50	90	85	33	261
2. Amounts Disbursed ..	**252**	**238**	**711**	**1,103**	**890**	**3,194**
2.1 Manufacturing ..	215	147	361	769	524	2,016
2.2 Tourism	22	66	321	316	291	1,016
2.3 Other	15	25	29	18	75	162

Source : Cyprus Development Bank.

During the last three years of the Plan, the Government endeavoured to promote the development of a capital market in Cyprus. As already mentioned, development stock with varying maturity dates and satisfactory interest yields was issued. The banking institutions, the various funds, insurance companies and the public in general responded positively. Government also encouraged Public Corporations to finance their investment requirements by resorting to public issues under Government guarantee. Very little interest was however shown by the private sector to finance its investment through public share issues. The unwillingness of private companies to draw their capital from the public is an unsatisfactory feature of the financing system.

2. The Third Five-Year Plan

2.1 Targets and Objectives

The main objective of the Plan is to create the necessary preconditions which will encourage savings and facilitate the mobilization and channelling of funds to priority investment sectors. The optimum allocation of financial resources among competing uses requires a wide range of financial outlets with different risks and an appropriate set of institutions to facilitate the mobilization of savings and to channel them to investing enterprises.

The specific objectives in the field of financing will be :

(*a*) to improve further the propensity to save ;

(*b*) to effect improvements in the long-term financing mechanism of the economy and to ensure that the needs of priority sectors in long-term finance are met ;

(*c*) to take measures, which would promote the development of a capital market in Cyprus ;

(*d*) to continue to use the public borrowing policy as an instrument of channelling savings to priority sectors and not as a means of meeting ordinary expenditures ; and

(*e*) to attract foreign capital to supplement domestic resources.

2.2 Financing of the Third Plan

2.2.1 Domestic Savings

Gross domestic savings are projected to continue expanding fast during the Third Plan period, rising from £54.6 mln. in 1971 to £97.1 mln. in 1976. The rate of growth of domestic savings will again be faster than the projected growth of disposable income. Thus, in spite of the fact that the propensity to save is already at a high level, domestic savings will increase further their share in disposable income from 20.5% in 1971 to 22.4% in 1976. (See Table 7).

Projected Gross Domestic Savings, 1971 and 1976
(At Current Prices—£mln.)

TABLE 7

	1971	1976	Total 1972–76	Annual Rate of Growth (%)
1. Gross Domestic Savings ..	54.6	97.1	391.3	12.2
2. Disposable Income	266.6	433.3	1,801.5	10.2
3. (1÷2) × 100	20.5	22.4	21.7	—

Source : Planning Bureau.

Thus, during the 1972–1976 period, out of a total disposable income of £1,801.5 mln., it is anticipated that domestic savings of the order of £391.3 mln. will be generated. This indicates that 21.7% of disposable income will be saved which compares favourably with the ratio of 20.1% during the Second Plan.

2.2.2 Savings from External Sources

The requirements of the economy, however, in investment expenditure are anticipated to increase much faster than domestic savings ; so increasing amounts of savings from external sources will be needed to supplement domestic savings. When allowance is made for price escalation the required investment in fixed capital and changes in stocks at current prices is estimated to be of the order of £454.3 mln. for the whole period. Domestic savings are projected to be about £391.3 mln. Thus, savings from external sources of the order of £63.0 mln. will be required to finance 13.9% of investment expenditure, which is higher than the relative foreign financing requirements during the period of the Second Plan (8.6%). It must be pointed out, however, that again a substantial amount of domestic savings will be influenced by foreign resources. Given that the factor income from abroad is projected to amount to £50.8 mln. during 1972–1976, transfer payments to £39.1 mln. and net borrowing £62.2 mln., it is anticipated that £302.2 mln. of investment will be financed entirely from domestic resources, the remaining £152.1 mln. being financed either from foreign savings or domestic savings generated from external factors. As a result, the relative dependence of the economy on external factors will be further reduced as compared with the Second Plan period.

2.2.3 Investment and Savings by Sector

Table 8 shows the planned investment for the period of the Plan by sector (private, public corporations, and Government). As already said, total gross fixed investment is anticipated to reach the level of £454.3 mln. at current prices, during the 1972–76 period. Domestic savings are expected to amount to £391.3 mln. and will thus be sufficient to finance 86.1% of investment expenditure. The private sector and the public corporations will be net deficit sectors ; despite the fast growth of their savings, their investment requirements will again grow at a much faster pace. Their deficit will be covered partly by the net surplus of the funds administered by Government and partly by external sources, which are expected to total £63.0 mln. during the Plan period. The Government sector will show a small surplus, much smaller than the one generated during the Second Plan period.

Financing of the Plan, 1972–1976
(At Current Prices—£mln.)

TABLE 8

	Amount	Share (%)
1. Investment Expenditure(1)	**454.3**	**100.0**
1.1 Private Sector	378.3	83.3
1.2 Public Corporations(2)	24.7	5.4
1.3 Government	51.3	11.3
2. Domestic Savings	**391.3**	**100.0**
2.1 Private	310.3	79.3
2.2 Funds Administered by Government	8.3	2.1
2.2.1 Social Insurance Fund	7.3	1.9
2.2.2 Other Funds	1.0	0.2
2.3 Public Corporations	20.7	5.3
2.4 Government(3)	52.0	13.3
3. Net Inflow (+)/Outflow (—)	**—63.0**	—
3.1 Private Sector	—68.0	—
3.2 Funds Administered by Government	8.3	—
3.3 Public Corporations	—4.0	—
3.4 Government(3)	0.7	—

Source : Planning Bureau.

2.2.4 Public Finance

In addition to funds needed for direct fixed investment, Government will have to secure enough financial resources to implement its whole development programme. It has been estimated that during the period 1972–1976 the Government current account surplus (incl. loan repayments to the Public Loans Fund) will amount to £67.4 mln. Thus, in order to finance the planned development programme estimated at £91.2 mln., additional financing of the order of £23.9 mln. will have to be secured from both internal and external sources. Some of this financing has already been secured. On the other hand, as has already been explained, since public debt is at a very low level, further loan raising will not jeopardise Government's debt servicing ability. However, the anticipated evolution of Government's finances poses certain questions as to the future ability of the Government to implement an expanding development programme. During the Plan period, the revenue sources will be re-examined with a view to ensuring eventually a constant flow of financial resources to enable the Government to continue to play its proper role in the development effort.

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(1) Including changes in stocks.

(2) Includes E.A.C., CY.T.A., C.B.C.

(3) Includes Public Loans Fund.

2.2.5 Policy Measures

Government policy will aim at the maintenance of conditions of monetary stability. Such a policy in itself discourages speculation and acts as a powerful incentive to saving. But at the same time a number of other measures will be taken which will stimulate and increase the already high propensity to save. These include the possibility of establishing new institutional outlets for savings (e.g. Building Societies), the use of public borrowing in such a way as to satisfy the diverse preferences of savers etc. As regards business savings, the tax incentives will be continued, whereas public infrastructural investments, which generate external economies, will assist business enterprises to improve their profitability.

In the field of channelling long-term finance, the Cyprus Development Bank, whose role and structure will be reviewed early in the Plan period, is expected to offer loan finance mainly to industry and tourism of about £8.4 mln. which represents a substantial improvement compared with its performance during the Second Plan period.

The development of the capital market will be encouraged through public issues and through the promotion of public companies. Improvements to the existing machinery of supply and marketability of shares will be studied and so will the setting up of a stock exchange. Finally, the monetary authorities will endeavour to ensure that the credit policies of the banking system are compatible with the investment priorities of the Plan.

CHAPTER 7

POPULATION, MANPOWER AND EMPLOYMENT

1. Introduction

Since the publication of the Second Plan, the statistical series on population, manpower and employment has been revised. The relevant statistical data on labour used in the Third Plan document represent estimates made by the Department of Statistics and Research on the basis of a revised code of sectoral classification of employment corresponding to the classification of G.D.P. by industrial origin. Thus, direct comparisons of population and employment figures with the projections of the Second Plan are not always possible. The revision of the statistical information, however, does not invalidate the general conclusions which can be drawn from a comparison of actual developments with those projected in the Second Plan.

2. Developments during the Second Plan

To avoid bottlenecks in the implementation of the overall development programme, the Second Plan was so designed as to be compatible with the anticipated evolution of the labour force and the possible supply of skills. In this connection, the main objective of the Plan was to provide gainful employment to every individual capable and willing to work, i.e. to maintain and enhance full employment conditions. In addition, the Plan aimed at securing the most productive employment for the labour force.

2.1 Supply of and Demand for Labour

The major source of supply of labour is the economically active population, that is the labour force, male or female, offering itself for employment. The main determinant of the size of the labour force is the total population.

The Cyprus population increased from 602,000 in 1966 to 639,000 in 1971, i.e. at an annual rate of growth of 1.2%(¹). On the other hand, the economically active population increased by about 20,000 persons, having risen from just over 253,000 in 1966 to 273,000 in 1971 or by 1.5% per annum. The annual increase of these two magnitudes implied in the Second Plan were 1.4% and 1.6%, respectively.

The demand for labour is expressed ex post through the concept of the gainfully employed population, which is the labour force actually employed in any one period in the various sectors of the economy. In Cyprus, a claim on the available supply of labour is made by other labour absorbing sectors, such as the National Guard, the Military Bases, etc. The registered or unregistered unemployed labour force is a leakage which for various reasons cannot be productively employed at any one time. Table 1 compares actual developments in the supply and demand for labour during the period under review with those anticipated in the Second Plan.

(¹) *De facto* concept. The statistical data on population are currently being revised by the Department of Statistics and Research.

TABLE 1

Manpower Balance, 1966 and 1971

	No. of Persons		1967–1971		
	1966	1971	Plan Projections (%) p.a.	Actual Growth (%) p.a.	Additional No. of persons
Uses of Labour :					
(1) Gainfully Employed Population	224,172	245,700	2.2	1.9	+21,528
(2) Registered Unemployed ..	3,484	2,846	—	—	—638
(3) Other Uses (including National Guard, unregistered unemployed persons (residual), employment at Military Bases, etc.) ..	25,533	24,454	—	—	—1,079
Sources of Labour :					
(4) Economically Active Population (1)+(2)+(3) ..	253,189	273,000	1.6	1.5	+19,811
(5) Total Population	602,000	639,000	1.4	1.2	+37,000
(6) % of (2) over (4) ..	1.4%	1.0%	—	—	—
(7) % of (4) over (5) ..	42.1%	42.7%	—	—	—

Source : Department of Statisitcs and Research, Planning Bureau.

Table 1 shows that the direction of change recorded was in line with the anticipated changes in the Second Plan. It will also be seen that the economically active population has been growing at a faster rate than total population, mainly because of the entry into the labour market of a larger proportion of females. An important conclusion which may be drawn from the above statistical data is that during the 1967–1971 period pressures have been exerted in the labour market. The additional number of persons made available from the economically active population (19,811 persons) was not sufficient to meet the observed demand (21,528 persons), with the result that extra labour force came from " Other Uses ".

2.2 Conditions of Full Employment

During the Second Plan period conditions of full employment prevailed. As it will be seen from Table 1, this objective was attained fully with the result that there was at times a shortage of skilled and unskilled workers. The number of registered unemployed decreased from 3,484 in 1966 to 2,846 in 1971 or from 1.4% of the economically active population in 1966 to 1% in 1971. As a percentage of the economically active population the number of unemployed did not exceed 1.2% in any year of the five-year period (¹).

2.3 Employment by Economic Sector

The additional labour force employed in the various economic sectors was determined, mainly, by productivity changes attained in each sector, by the pressure of each sector on the available pool of skills, the degree of intersectoral mobility, and the comparative level of wages and other

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(¹) These percentages do not include unemployed among Turkish Cypriots who may not have registered with Government Employment Exchanges.

benefits obtaining in each economic field. The relative degree of influence of each of these forces cannot be assessed due to the absence of detailed statistical information and the complexity of the forces operative on the labour market. Table 2 shows the combined effect of all the above forces on the actual employment levels attained by each sector and compares them with the direction of change anticipated in the Second Plan.

If allowance is made for the revisions of the statistical series on employment, the magnitude of the change observed does not appear to be much different from that anticipated in the Second Plan, except in the case of the agricultural sector. All sectors, with the exception of agriculture and mining and quarrying, experienced an absolute increase in the labour force employed. The largest claim on the additional labour emanated from those sectors which experienced the highest rate of expansion in output, i.e. the services sector including commerce, the manufacturing and the construction sectors.

The observed redistribution of employment from the primary sectors, and particularly agriculture, to the secondary and tertiary sectors, which took place simultaneously with an expansion in output, together with the considerable increase in the supply of skills under Government training programmes, should be interpreted as a healthy sign and a positive move towards more productive employment and towards further restructuring of the economy. The above changes are also indicative of the increasing competition which began to develop among the three most dynamic sectors of the economy, namely manufacturing, construction and tourism (services). This competition gained further momentum under the conditions of general manpower shortage.

Sectoral Distribution of Manpower, 1966 and 1971

TABLE 2

	No. of Persons Employed		1967–1971		
	1966	1971	Plan Projections (%) p.a.(1)	Actual Growth (%) p.a.(1)	Additional No. of Persons Employed
1. Agriculture, Forestry, Fishing and Hunting	97,552	96,200	0.1	—0.3	—1,352
2. Mining and Quarrying ..	5,072	4,200	—0.4	—3.7	—872
3. Manufacturing(2)	31,170	36,300	4.6	3.1	5,130
4. Construction	21,652	26,000	4.4	3.7	4,348
5. Electricity, Gas, Water and Sanitary Services	1,153	1,300	2.2	2.4	147
6. Transportation, Storage and Communication	9,700	11,400	3.5	3.3	1,700
7. Wholesale and Retail Trade	18,517	21,600	3.7	3.1	3,083
8. Banking, Insurance and Real Estate	1,948	2,600	4.6	5.9	652
9. Public Administration ..	6,138	9,200	1.5	8.4	3,062
10. Services	31,270	36,900	4.4	3.4	5,630
Total Gainfully Employed Population ..	**224,172**	**245,700**	**2.2**	**1.9**	**21,528**

Source : Department of Statistics and Research, Planning Bureau.

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(1) The two columns are not strictly comparable, especially in the case of Public Administration and Services.

(2) Including Cottage Industry.

2.4 Manpower and Productivity

The attainment of the other objective of the Second Plan, i.e. the most productive employment of the labour force may be judged, *inter alia*, from the overall productivity results obtained. During the Second Plan period the productivity target was surpassed. Table 3 gives estimates of the overall increase in productivity attained during the period 1967–1971. Productivity in this context is defined as value added per person employed in terms of 1966 constant factor cost.

G.D.P., Employment and Productivity Growth, 1967–1971

TABLE 3

	Plan Growth Targets (%) p.a.	Estimated Actual Growth (%) p.a.
Gross Domestic Product (1)	7.2	8.5
Gainfully Employed Persons	2.2	1.9
Productivity—All Sectors	4.9	6.6
Productivity—Non-Agricultural Sectors	3.3	4.9

Source : Planning Bureau.

Table 3 shows that during the Second Plan period the economy moved fast and adapted itself to the conditions of labour shortage efficiently through the attainment of higher productivity levels. It was thus possible to overshoot the G.D.P. growth target of the Plan. This higher growth rate was also made possible through an increase in the incremental capital/labour ratio as compared with the Second Plan forecast. The Second Plan anticipated that the achievement of the targets of output and productivity would have necessitated additional capital per new worker of the order of about £7,180 at 1966 constant prices up to the end of 1971. Statistical evidence suggests that in fact fixed investment realized corresponded to about £8,700 per new worker employed. Besides the factor of capital intensity, other factors which have contributed to the overshooting of the productivity target set by the Second Plan were the improved organisational methods of the production process, the higher degree of utilization of existing capacity in terms both of capital resources and underemployed labour and the larger supply of skilled workers from training institutions.

3. The Third Five-Year Plan

3.1 Objectives of the Plan

The basic objectives of the Third Plan in the field of manpower and employment will be the maintenance of conditions of full employment and the further promotion of the objective of most productive employment.

The planned rate of growth is anticipated to create conditions for the full employment of the additional labour force. In fact, the labour market is expected to continue to be tight both in terms of numbers and in certain skills. The programmes and policy measures designed to overcome the latter obstacle are discussed in Chapter 20 together with other labour policies. In what follows, attention is focussed on the manpower and employment prospects from the numerical point of view.

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(1) At Constant 1966 Prices.

3.2 Labour Supply and Demand

During the Third Plan the Cyprus population is anticipated to increase by 1.3% per annum and to reach the figure of 682,000 by 1976. At the same time the economically active population is estimated to rise to 296,500 persons or by an annual rate of growth of 1.6%. Thus, the latter will represent 43.5% of total population in 1976 compared with 42.7% in 1971, because of the expected participation of more women in the labour force and the population ageing effect. The projections of demand for manpower were based on the output targets set and on estimates of the anticipated or desired productivity changes. A direct comparison of the demand for and the supply of labour will identify the possible " manpower gap " and assist in designing the proper manpower policies. Table 4 presents the resultant manpower balance anticipated in 1976.

As will be seen from Table 4, conditions of full employment will prevail during the Third Plan period. The assumed level of registered unemployed of the order of 2,965 persons is considered to be the lowest possible level consistent with stability. Whereas no overall " manpower gap " is envisaged, this will be achieved if employment in other labour absorbing sectors will not exceed the level of 25,835 persons. Moreover, the above equilibrium between overall demand and supply of labour will be attained assuming that G.D.P. expands at an annual rate of growth of about 7.3%. If, however, the actual rate of growth exceeds the Plan target, there will be further pressures on the labour market. This conclusion abstracts from the possible effect on the demand for manpower as a result of different productivity levels than those implied in the projections. The pressures on manpower equilibrium may be dampened down if other implicit assumptions regarding an increase in the female labour force surpass expectations, etc. Pressures on the manpower equilibrium could also be reduced if

TABLE 4

Manpower Balance, 1971 and 1976

	No. of Persons		1972–76		
	1971	1976	Additional No. of Persons	Additional No. of Persons p.a.	Annual Rate of Growth (%)
USES OF LABOUR :					
(1) Gainfully Employed Population	245,700	267,700	22,000	4,400	1.7
(2) Registered Unemployed	2,846	2,965	119	24	—
(3) Other Uses (incl. the National Guard, unregistered unemployed persons, employment at Military Bases, etc.)	24,454	25,835	1,381	276	—
SOURCES OF LABOUR :					
(4) Economically Active Population (1)+(2)+(3)	273,000	296,500	23,500	4,700	1.6
(5) Total Population	639,000	682,000	43,000	8,600	1.3
(6) % of (2) over (4)	1.0%	1.0%	—		
(7) % of (4) over (5)	42.7%	43.5%	—		

Source : Planning Bureau.

maximum inter-sectoral, inter-regional and inter-occupational mobility is ensured or if emigration is checked further or even reversed. Such changes, however, are long-term in nature. Efforts to overshoot the productivity targets set will provide the most effective means for cushioning possible manpower pressures.

3.3 Employment by Economic Sector

The sectoral distribution of employment given, the envisaged expansion in output and the assumed productivity changes is shown in Table 5. These projections signify also the anticipated size of demand for labour by each economic sector.

TABLE 5

Employment by Economic Sector, 1971 and 1976

	No. of Persons		1972–1976	
	1971	1976	Additional No. of Persons	Annual Rate of Growth (%)
1. Agriculture, Forestry, Fishing and Hunting	96.200	94.700	—1.500	—.03
2. Mining and Quarrying	4,200	3,650	—550	—2.8
3. Manufacturing	36.300	44,000	7,700	3.9
4. Construction	26,000	30.160	4,160	3.0
5. Electricity, Gas Water and Sanitary Services	1,300	1,600	300	4.3
6. Transportation, Storage and Communication	11,400	12,700	1,300	2.2
7. Wholesale and Retail Trade	21,600	23,800	2,200	2.0
8. Banking, Insurance and Real Estate ..	2,600	2,990	390	2.8
9. Public Administration	9.200	10,800	1,600	3.3
10. Services	36,900	43,300	6,400	3.2
Total Gainfully Employed Population	**245,700**	**267,700**	**22,000**	**1.7**

Source : Planning Bureau

Table 5 shows that employment in all sectors, with the exception of agriculture and mining, will increase. The largest absolute expansion in employment is anticipated to take place in the manufacturing, the services (tourism) and the construction sectors, the shares of which will also increase. The employment distribution pattern for 1976 does not imply that growth will be uniform within each of the Plan years. Fluctuations in employment are expected to be more marked in the case of the mining and quarrying sector, the employment of which is expected to decline steeply over the first 2–3 years of the Plan and then rise again to the level of 3,650 persons in 1976.

3.4 Manpower and Productivity

The anticipated growth of overall employment and output during the Third Plan period as well as the implicit productivity growth rate expected to be attained are shown in Table 6. The rate of productivity increase will be lower in relative terms than that achieved during the Second Plan. The main reasons for this will be :—

(*a*) the decline in the rate of increase expected in the case of agriculture as a result of the lower growth target ;

(*b*) the decline in productivity growth anticipated in the mining and quarrying sector ;

(*c*) the shortage of skills ; and

(*d*) the comparatively high level of output per worker attained in 1971 and consequently the slower future expansion in output per worker in relative terms.

Annual Growth of G.D.P., Employment and Productivity

(%)

TABLE 6

	1967–71	1972–76
Gross Domestic Product (1)	8.3	7.3
Gainfully Employed Persons	1.9	1.7
Productivity—All Sectors	6.3	5.5
Productivity—Non-Agricultural Sectors	4.6	4.3

Source Planning Bureau.

The Third Plan anticipates that the additional fixed capital required over the period 1972–1976 should be of the order of £350 mln. at 1970 constant prices. On the other hand employment will increase by 22,000 additional persons. Therefore, the additional capital per new worker will be about £15,900 at 1970 constant prices compared with about £11,000 per person invested during the period 1967–1971. This more capital-intensive strategy adopted in the Third Plan, as compared with that of the Second Plan, is consistent with the anticipated pressures on the manpower and skills equilibrium. Another implicit assumption of the Third Plan is that the additional capital assets to be employed in the economy will be more efficient and more sophisticated ; and this will require a more highly trained labour force. It must be pointed out, also, that the additional capital injection is expected to be constantly increasing throughout the period of the Plan and, thus, the time-lags involved assume increasing importance for the attainment of the planned output, employment and productivity.

3.5 Labour Supply Policies

It has been established in the above analysis that the economy might face manpower pressures, unless rapid progress is made in productivity growth and that the development of the labour factor is of paramount importance for the smooth and efficient expansion of production. During the Third Plan period the efforts to attract additional labour into the market should be intensified.

(i) EMIGRATION

One source of supply of labour is the further reduction of net emigration, which is closely linked with local economic conditions. With the increasing employment opportunities in the Island and the rapidly improving employment conditions not only emigration, however minimal at present, could be further reduced, but the repatriation of a proportion of Cypriots might also be possible. Efforts will be made in this direction in consultation with industry.

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(1) At Constant 1970 Prices.

(ii) UNEMPLOYED LABOUR AND THE ECONOMICALLY INACTIVE FEMALE LABOUR FORCE

The number of registered unemployed is believed to have reached the minimum possible level consistent with the needs of a dynamic economy. On the other hand, available statistics show that the proportion of females in the total number of unemployed, as more and more females enter the market, rose from about 41% in 1966 to 44% by 1971. The number of unemployed females could be reduced. There may also be unemployed or underemployed labour among the Turkish population which, with the improvement in the political situation, will avail itself of the employment opportunities in the various sectors of the economy.

A more long-term source of labour supply is the possibility of inducing more female labour than hitherto to participate in the labour market. Recent trends are indicative of an increase in the participation of females in the labour market, but it is believed that their proportion can increase even further, especially out of the economically inactive female force in urban areas. Possible measures towards attracting added numbers of females are the expansion of day-care nurseries, the widening of the scope of industrial training programmes to encompass specifically female trainees, etc.

(iii) UNDEREMPLOYMENT IN THE AGRICULTURAL SECTOR

At present more than 35% of the economically active population is reported to be engaged in the broad agricultural sector. Considering that the contribution of this sector to G.D.P. is not more than 20%, the conclusion may be drawn that the agricultural labour productivity is comparatively low and/or that there is still widespread underemployment in this type of activity. In actual life the situation might not be entirely as implied by the above percentages. In the past and especially during the past few years a proportion of farmers have been occupied in second jobs. It appears, however, that there is still room for reducing further the share of agriculture in the labour force without adverse effects on the expansion of agricultural production. This process is a long-term one since it is closely related to the restructuring of agricultural production and the improvement of efficiency and productivity in this sector. For the period of the Third Plan the release of workers from agriculture for the benefit of other sectors is anticipated to be only marginal.

(iv) MOBILITY OF LABOUR

One of the ways to increase production without increasing the labour force is to utilize labour more productively. This implies mobility of labour from less to more remunerative employment. Apart from efforts to train and upgrade the existing labour force, increased efforts are also needed to encourage the mobility of labour by region, occupation and sector according to the uneven pressures on manpower which may appear from time to time. Besides the pressure of ordinary market forces, mobility of labour can be encouraged through improved knowledge of available opportunities among the would-be employees. Mobility could also be encouraged through the improvement of public transport. Finally, the rationalization of production and the improved organization of establishments as well as the creation of optimum sized units will be an effective means of releasing manpower for more productive employment.

CHAPTER 8

BALANCE OF PAYMENTS

1. The Need for a Sound Balance of Payments

A sound balance of payments is a necessary prerequisite if the growth of the economy is not to be interrupted from external disequilibria. However, the word sound should not be taken to imply only the existence of a surplus in the external account of the country. A sound balance of payments must also reflect certain structural characteristics, which allow the development of adequate and dependable sources of foreign exchange earnings.

One of the objectives of the Second Plan was to maintain a relatively high level of foreign exchange reserves and to restructure the balance of payments in order to place it on sounder foundations. It was recognized, however, that with regard to the latter aim no major improvements were to be expected within the relatively short span of a five-year period. Thus the developments during the Second Plan must be regarded as satisfactory only in so far as the direction of change effected is concerned.

2. Developments during the Second Plan

2.1 Overall Balance of Payments

During the Second Plan period the balance of payments did not act as a constraint on the country's development effort. As shown in Table 1 the foreign exchange reserves of the country increased from £53.8 mln. in 1966 to £114.9 mln. in 1971, representing imports of goods and services for about 11 and 12 months respectively. There was a surplus in the balance of payments throughout the Second Plan period, the final surplus having increased from £4.3 mln. in 1966 to £17.9 mln. in 1971. The increase of the surplus in the balance of payments was the result of the substantial inflow of capital. On the other hand, both the trade balance and the current account balance have shown a deficit.

Balance of Payments Summary, 1966–1971

(£mln.)

TABLE 1

	1966	1967	1968	1969	1970	1971	Annual Rate of Growth (%) 1967–71
Exports (f.o.b.) ..	27.6	28.5	35.2	39.6	42.7	45.3	10.4
Imports (f.o.b.) ..	—48.0	—51.8	—61.8	—75.3	—86.0	—94.5	14.5
Trade Balance ..	—20.4	—23.3	—26.6	—35.7	—43.3	—49.2	—
Invisible Receipts ..	37.5	40.3	45.8	55.2	60.9	72.3	14.0
Invisible Payments	—15.9	—15.8	—20.2	—24.1	—26.6	—29.7	13.3
Invisible Balance ..	21.6	24.5	25.6	31.1	34.3	42.6	—
Current Account Balance ..	+1.2	+1.2	—1.0	—4.6	—9.0	—6.6	—
Capital Account (net) (incl. errors and omissions) ..	3.1	6.6	5.2	11.4	19.5	24.5	—
Overall Balance ..	+4.3	+7.8	+4.2	+6.8	+10.5	+17.9	—
Foreign Exchange Reserves ..	53.8	64.7	72.1	79.7	92.8	114.9	—

Source : Central Bank of Cyprus

These developments had been anticipated in the Plan, although to a lesser degree. Both merchandise imports and exports increased at a higher rate than envisaged. The net result was an increased trade account deficit, which went up from £20.4 mln. in 1966 to £49.2 mln. in 1971. Moreover, the invisible balance, despite its increased surplus, has proved to be no longer adequate to cover the trade account deficit and from 1968 onwards the current account was turned into deficit.

What appears at first sight to be a gloomy picture (i.e. an adverse trade gap and a deficit in the current account) becomes more encouraging if one takes into consideration the following. In the first place, further analysis of imports by economic destination shows that the share of consumer goods decreased considerably, while the shares of raw materials and particularly of capital goods increased correspondingly. This development is considered normal during a period when the Island's economy is strengthening its productive capacity and spells out the hope that in the non-distant future the rate of increase of imports will slow down. Moreover, the larger proportion of the deficit of the trade balance was covered by the constantly increasing surplus on invisibles, while the balance, as stated above, was more than covered by the surplus in the capital account. It is noteworthy that the more unstable of the invisible earnings, i.e. military expenditures, now constitute a much smaller porportion of the total foreign exchange earnings (excluding capital inflows) than in 1966, while earnings from tourism, freight, insurance and other transportation as well as investment income from abroad comparatively improved their position. Consequently, one of the long-term objectives of the development effort, i.e. the gradual freeing of the economy from its dependence on unstable sources of foreign exchange earnings and the placing of the balance of payments on a sounder foundation has begun to be realized.

A more detailed evaluation of the developments of the balance of payments is given in the following paragraphs.

2.2 Trading Account

During the Second Plan period Cyprus had an unfavourable balance of trade. From Table 2 it appears that the faster increase in imports (14.5%) relative to exports (10.4%) has contributed to the widening of the trade deficit. Both price and volume changes have contributed to the widening of the trade gap. Volume changes have contributed 51.7% of the change in the trade gap while the remaining 48.3% was accounted for by increases in import prices, which grew faster than export prices, thus, bringing about a worsening in the terms of trade. A large part of the trade deficit was financed from the surplus in the invisible account while the remaining deficit was more than covered from net capital inflows.

An encouraging development, however, is that there has been a restructuring in the composition of the Cyprus external trade. The trend for the share of consumer goods to fall relatively as compared to other imports has continued during the Second Plan period. Imports of consumer goods now account for a smaller share in total imports (34.3%) than in 1966 (36.5%). On the other hand the share of capital goods has increased at the expense of consumer goods from 20% in 1966 to 22.2% in 1971, while the share of raw materials has retained its 1966 level. These developments show that the direction of imports has been towards goods of a developmental nature.

The pattern of exports shows a more diversified structure as well. For example, more manufactured goods are now exported than ever before. In 1971 exports of manufactures proper formed 14.6% of total exports compared to 3.6% in 1966, having attained an annual rate of increase of 45.8%. The share of agricultural exports (raw and processed) has also improved, following an impressive increase by 15.2% per annum, and accounted for 64.4% of exports in 1971 compared to 52.2% in 1966. In this connection it should also be noted that more agricultural products are now exported in a processed form although the bulk of this export basket is still in raw material state. These changes in the composition of exports have been effected at the expense of minerals whose share has continued to fall and in 1971 accounted for 21.0% of total exports in contrast to 44.2% in 1966.

Balance of Payments—Trading Account, 1966–1971

TABLE 2

(£mln.)

	1966	1967	1968	1969	1970	1971	Annual Rate of Growth (%) 1967–71	Share in Total (%)	
								1966	1971
1. **Exports (f.o.b.)** ..	**27.6**	**28.5**	**35.2**	**39.6**	**42.7**	**45.3**	**10.4**	**100.0**	**100.0**
1.1 Minerals ..	12.2	8.9	12.2	12.0	14.0	9.5	—4.9	44.2	21.0
1.2 Agricultural Products ..	14.4	17.3	20.5	23.3	23.6	29.2	15.2	52.2	64.4
1.3 Other ..	1.0	2.3	2.5	4.3	5.1	6.6	45.8	3.6	14.6
2. **Imports (f.o.b.)** ..	**—48.0**	**—51.8**	**—61.8**	**—75.3**	**—86.0**	**—94.5**	**14.5**	**100.0**	**100.0**
2.1 Consumer & other goods	17.5	19.0	21.1	25.9	27.1	32.4	13.1	36.5	34.3
2.2 Raw materials (incl. fuel)	20.9	22.4	27.6	32.3	38.3	41.1	14.5	43.5	43.5
2.3 Capital goods	9.6	10.4	13.1	17.1	20.6	21.0	16.9	20.0	22.2
Trade Balance	**—20.4**	**—23.3**	**—26.6**	**—35.7**	**—43.3**	**—49.2**	**—19.3**	—	—

Source : Central Bank of Cyprus, Planning Bureau.

2.3 Invisible Account

A detailed analysis of the various magnitudes of the invisible account appears in Table 3. This account shows that Cyprus earns much more than it spends on services—the so called invisible exports and imports—as a result of which the invisible balance has always been in surplus. This grew from £21.6 mln. in 1966 to £42.6 mln. in 1971, i.e. it has almost doubled in the five-year period.

During the same period the invisible account has undergone some major changes. In the first place, the dependence of the economy on unstable sources of income has been reduced, the share of the item known as " Government, n.i.e. " in which income from foreign military expenditures is reflected having been reduced from 63% in 1966 to 47.3% in

1971. However, this item alone still accounts for almost half of total invisible receipts. Secondly, existing sources of income were developed still further. Tourist receipts, the second largest invisible source of income, have increased along with the development of the tourist industry and doubled their share by 1971. Increased earnings also emanate now from freight, insurance and other transportation, from investment income from abroad and from the provision of services to other countries (e.g. contract work), which have all improved their shares in 1971 compared to 1966. Transfer payments, although now higher in absolute terms, have not retained their 1966 relative share.

On the payments side increased outlays have been going to freight, insurance and other transportation as a result of larger quantities of imports, to other services and travel and to a lesser extent to "Government n.i.e.", transfer payments and investment income.

2.4 Current Account and Foreign Capital Inflow

As stated above, the invisible balance is not adequate to cover the growing negative trade balance and hence the current account has been in deficit in the last four years. For the time being the deficit has been covered by net capital inflows, which during the period of the Second Plan amounted to £49.5 mln., sufficient to cover not only the current account deficit (£20.0 mln.) but also to add £29.5 mln. to the reserves.

TABLE 3

Balance of Payments—Invisible Account, 1966–1971

(£mln.)

		1966	1967	1968	1969	1970	1971	Annual Rate of Growth (%) 1967–71	Share in Total (%)	
									1966	1971
Freight, Insurance & Other Transportation	*Dr.* ..	7.0	7.5	9.2	11.1	13.4	15.4	17.1	44.0	51.9
	Cr. ..	1.1	1.1	1.2	3.1	4.8	5.9	39.9	2.9	8.2
Travel	*Dr.* ..	2.9	3.2	3.8	4.3	4.9	6.0	15.6	18.2	20.2
	Cr. ..	3.6	4.3	5.8	7.8	8.1	13.6	30.5	9.6	18.8
Govt., n.i.e.	*Dr.* ..	0.5	0.6	0.7	0.8	0.9	0.9	12.5	3.2	3.0
	Cr. ..	23.6	25.1	26.9	29.3	30.2	34.2	7.7	63.0	47.3
Investment Income	*Dr.* ..	4.9	3.7	4.5	5.6	4.8	4.6	—1.2	30.8	15.5
	Cr. ..	2.7	3.2	3.9	6.0	5.9	6.1	17.7	7.2	8.4
Transfer Payments	*Dr.* ..	0.3	0.4	0.6	0.7	0.8	0.6	14.9	1.9	2.0
	Cr. ..	4.4	4.3	4.5	4.8	7.1	7.7	11.8	11.7	10.7
Other Services	*Dr.* ..	0.3	0.4	1.4	1.6	1.8	2.2	49.0	1.9	7.4
	Cr. ..	2.1	2.3	3.5	4.2	4.8	4.8	16.0	5.6	6.6
Total	**Dr.** ..	**15.9**	**15.8**	**20.2**	**24.1**	**26.6**	**29.7**	**13.3**	**100.0**	**100.0**
	Cr. ..	**37.5**	**40.3**	**45.8**	**55.2**	**60.9**	**72.3**	**14.0**	**100.0**	**100.0**
Invisible Balance	**Cr.** ..	**21.6**	**24.5**	**25.6**	**31.1**	**34.3**	**42.6**	**14.6**	—	—

Source : Central **Bank** of Cyprus.

2.5 Foreign Exchange Reserves

As we have seen above, there were very favourable developments concerning the foreign exchange reserve position during the Second Plan period. As a result, Cyprus has managed to achieve a rapid rate of economic growth without having to run down its reserves or to face balance of payments difficulties. These developments have also demonstrated the increased confidence in the future of the Cyprus economy and its currency.

3. The Third Five-Year Plan

3.1 Long and Medium-term Objectives

One of the main objectives of the previous Plans in so far as the balance of payments is concerned, has been the restructuring of the balance of payments and the building up of an adequate foreign asset position. This has meant on the one hand the restructuring and diversification of the productive capacity of the economy and, on the other hand, the creation of new sources of foreign exchange earnings so as to reduce the reliance of the economy on precarious sources of income. As these are long-term objectives and cannot be achieved in the comparatively short period of a five-year plan, the efforts of the Government to restructure the balance of payments and to put it on sounder foundations will continue during the period of the Third Plan as well.

More specifically the objectives of the Third Plan with regard to the balance of payments will be :

(a) Improving the Composition of the Trade Account

As already seen, the trade account deficit has been on the increase during the period 1967–1971. Moreover, the ratio of exports to imports has decreased from 57.5% in 1966 to 47.9% in 1971, indicating that Cyprus merchandise exports pay now a smaller proportion of the import bill than five years ago. These unfavourable trends must be arrested and reverted. The state of the economy, however, is such that these tasks cannot be accomplished within the Third Plan period. Despite the envisaged stepping up of the export performance, and the slowing down of imports, the limitations of production in general and the need for imported capital goods, raw materials and other basic consumption goods will have limited results in so far as the improvement of the structure of the trade account is concerned. Thus, it is estimated that in 1976 exports will pay for 45.2% of imports compared to 47.9% in 1971. This development will result in the widening of the trade gap, but since the prospects for the improvement of the invisible earnings position are good and having regard to the foreign asset position of the country there should be no serious cause for concern. A close watch must however be kept on developments in the capital account.

(b) Developing Invisible Receipts

Brighter prospects are envisaged for the invisible receipts, which are expected to cover a major part of the trade account deficit. The surplus in the invisible account will largely depend on the evolution of tourist receipts and to a lesser extent on receipts from freight, insurance and other transportation, which are expected to show a substantial increase both absolutely and in relation to other sources of invisible earnings.

(*c*) *Encouraging the Inflow of Foreign Capital*

This will be needed for three main purposes :

(i) to finance the current account deficit ;

(ii) to maintain a surplus in the balance of payments, which will be needed to preserve a comfortable ratio of foreign exchange reserves to imports of goods and services ; and

(iii) to provide finance for investment, associated with technical and other know-how.

3.2 Targets of the Third Plan

3.2.1 Overall Balance of Payments

Table 4 contains in summary form the results of projections for the Third Plan period with regard to the evolution of the balance of payments. Imports are expected to grow at a somewhat faster pace than exports and the trade gap is expected to reach £90.2 mln. by 1976 compared to £49.2 mln. in 1971. The gap between import growth and export growth is anticipated to narrow down compared to the Second Plan period. The invisible balance, on the other hand, despite its satisfactory growth will not be able to cover the growing trade gap. Therefore, a capital inflow in the region of £85.1 mln. will be required for the whole 1972–76 period in order to cover the current account deficit and to add to the foreign exchange reserves sufficient margin so that total reserves can pay for eight months imports of goods and services in 1976.

Balance of Payments Summary, 1966, 1971 and 1976.

(*£mln.*)

TABLE 4

	1966	1971	1976	Annual Rate of Growth (%)		Total	
				1967–71	1972–76	1967–71	1972–76
Exports (f.o.b.) ..	27.6	45.3	74.4	10.4	10.4	191.3	307.2
Imports (f.o.b.)	—48.0	—94.5	—164.6	14.5	11.8	369.4	664.0
Trade Balance	—20.4	—49.2	—90.2	—	—	—178.1	—356.8
Invisible Receipts ..	37.5	72.3	122.4	14.0	11.1	274.5	499.5
Invisible Payments ..	—15.9	—29.7	—50.0	13.3	11.0	—116.4	—204.9
Invisible Balance ..	21.6	42.6	72.4	—	—	158.1	294.6
Current Account Balance	+1.2	—6.6	—17.8	—	—	—20.0	—62.2
Capital Account (net) ..	3.5	17.6	20.0	—	—	49.5	85.1
Errors and Omissions	—0.4	6.9	—	—	—	17.7	—
Overall Balance ..	+4.3	+17.9	+2.2	—	—	47.2	22.9
Foreign Exchange Reserves ..	**53.8**	**114.9**	**137.8**	—	—	—	—

Source : Planning Bureau.

3.2.2 Merchandise Trade

Forecasts of the main groups of exports and imports during the Third Plan period appear in Table 5. For a more detailed discussion on the prospects of the various exportable products and imported goods attention is invited to Chapter on Trade and Marketing.

Balance of Payments—Trade Account, 1966, 1971 and 1976

(f.o.b.—£mln.)

TABLE 5

	1966	1971	1976	Annual Rate of Growth (%)		Share in Total (%)		
				1967–1971	1972–1976	1966	1971	1976
1. Exports (f.o.b.)	**27.6**	**45.3**	**74.4**	**10.4**	**10.4**	**100.0**	**100.0**	**100.0**
1.1 Minerals	12.2	9.5	10.3	—4.9	1.6	44.2	21.0	13.9
1.2 Agricultural Products	14.4	29.2	50.1	15.2	11.4	52.2	64.4	67.2
1.3 Other	1.0	6.6	14.0	45.8	16.2	3.6	14.6	18.9
2. Imports (f.o.b.)	**—48.0**	**—94.5**	**-164.6**	14.5	**11.8**	**100.0**	**100.0**	**100.0**
2.1 Consumer and other Goods	—17.5	—32.4	—51.5	13.1	9.7	36.5	34.3	31.3
2.2 Raw Materials (incl. fuel)	—20.9	—41.1	—77.3	14.5	13.5	43.5	43.5	47.0
2.3 Capital Goods	—9.6	—21.0	—35.8	16.9	11.2	20.0	22.2	21.7
Trade Balance	**—20.4**	**—49.2**	**—90.2**	**19.3**	**12.9**	—	—	—

Source : Planning Bureau.

(i) MERCHANDISE EXPORTS

Exports are expected to grow at about the same pace as in the years 1967–1971, that is by 10.4% p.a. The underlying force behind this increase will chiefly come from agricultural exports which are expected to reach £50.1 mln. in 1976 or to grow by 71.6% over 1971. Manufactured exports also are estimated to increase appreciably and will more than double by 1976. These are projected to rise from £3.3 mln. in 1971 to £8.3 mln. in 1976. Exports of minerals are envisaged to show only a slight increase due to the expected revival of prices from their depressed level in 1971. In volume terms these will maintain their 1971 level.

(ii) MERCHANDISE IMPORTS

These are estimated to grow at an annual rate of 11.8%, rising from £94.5 mln. in 1971 to £164.6 mln. in 1976. As Table 5 shows, import growth will be most rapid for raw materials as a result of the envisaged fast expansion of domestic production and exports. Their share in total imports will rise to 47% in 1976 compared to 44% in 1971. An encouraging feature of the import bill will be the relative decline of consumer good imports which is expected to be brought about mainly by more import substitution. Their rate of growth will average 9.7% p.a., compared to 13.1% in the period 1967–71. Accordingly, their share will fall from 34.3% in 1971 to 31.3% in 1976. Capital good imports are also expected to grow less rapidly than before and by 1976 will account for about the same share in total imports as in 1971.

3.2.3 Invisible Account

(i) INVISIBLE RECEIPTS

As Table 6 shows, invisible receipts are expected to grow to £122.4 mln. compared with £72.3 mln. in 1971. The highest contribution towards this increase will come from tourism which is estimated to fetch £41.9 mln. in 1976. Tourist receipts would thus constitute about 34% of total invisible receipts compared to 19% in 1971. There will also be increased earnings from freight, insurance and other transportation as a result of the further development of this sector. Foreign military expenditure is projected to grow at a slower pace than before and its share is estimated to decline still further to 33.7% in 1976. Receipts from investment income, transfer payments and other services will also grow, but they will not be able to hold to their 1971 shares.

(ii) INVISIBLE PAYMENTS

Payments on the invisible account are estimated to reach £50.0 mln. in 1976 or to grow at an annual rate of growth of 11.0% compared to 13.3% in the previous Plan period. The slower rate of import growth of services will be mainly due to the slower growth rate anticipated in freight, insurance and other transportation payments because of a slower import growth and the development of local transport carriers. Furthermore, expenditure on travel, government n.i.e., transfer payments and other services is also anticipated to grow less rapidly than before. At the same time, however, investment income paid to foreigners will grow at a much faster pace due to the influx of foreign capital in recent years and to capital borrowing from abroad.

Balance of Payments—Invisible Account, 1966, 1971 and 1976

TABLE 6

(£mln.)

		1966	1971	1976	Annual Rate of Growth (%)		Share in Total (%)		
					1967–1971	1972–1976	1966	1971	1976
Freight, Insurance and Other Transportation	*Dr.* ..	7.0	15.4	28.0	17.1	12.7	44.0	51.9	56.0
	Cr. ..	1.1	5.9	15.3	39.9	21.0	2.9	8.2	12.5
Travel	*Dr.* ..	2.9	6.0	9.9	15.6	10.5	18.2	20.2	19.8
	Cr. ..	3.6	13.6	41.9	30.5	25.2	9.6	18.8	34.2
Government. n.i.e.	*Dr.* ..	0.5	0.9	1.3	12.5	7.6	3.2	3.0	2.6
	Cr. ..	23.6	34.2	41.2	7.7	3.8	63.0	47.3	33.7
Investment Income	*Dr.* ..	4.9	4.6	6.5	—1.2	7.2	30.8	15.5	13.0
	Cr. ..	2.7	6.1	8.0	17.7	5.6	7.2	8.4	6.5
Transfer Payments	*Dr.* ..	0.3	0.6	0.9	14.9	8.4	1.9	2.0	1.8
	Cr. ..	4.4	7.7	9.2	11.8	5.0	11.7	10.7	7.5
Other Services	*Dr.* ..	0.3	2.2	3.4	49.0	9.1	1.9	7.4	6.8
	Cr. ..	2.1	4.8	6.8	18.0	7.2	5.6	6.6	5.6
Total	*Dr.* ..	**15.9**	**29.7**	**50.0**	**13.3**	**11.0**	**100.0**	**100.0**	**100.0**
	Cr. ..	**37.5**	**72.3**	**122.4**	**14.0**	**11.1**	**100.0**	**100.0**	**100.0**
Invisible Balance	*Cr.* ..	**21.6**	**42.6**	**72.4**	**14.6**	**11.2**	—	—	—

Source : Planning Bureau.

(iii) INVISIBLE BALANCE

The developments in the invisible account, as described above, will leave a credit balance of £72.4 mln. in 1976. The surplus will be able to cover about 80% of the deficit in the trading account compared to 87% in 1971.

3.2.4 Current Account Balance and the Need for Foreign Capital

In the light of the above analysis regarding the possible developments in the trading and invisible accounts, the current account emerges with a deficit of £62.2 mln. during the period 1972–1976. This will have to be financed from loans and other capital inflows. On the assumption that by 1976 foreign exchange reserves must be sufficient to cover eight months imports of goods and services, a total of £85.1 mln. net capital inflow will be needed in the course of the Third Plan period. On the basis of past developments and taking into account the fact that Cyprus foreign indebtedness is low this appears to be within the capabilities of the economy. However, the recent restrictions on capital transfers imposed by the United Kingdom might affect adversely the inflow of private foreign capital into Cyprus. Hence, the need to keep a close watch on the capital account and to intensify the efforts to attract foreign capital.

PART III

Development by Sector of Production

CHAPTER 9

AGRICULTURE, ANIMAL HUSBANDRY, FORESTRY AND FISHERIES

A. THE BROAD AGRICULTURAL SECTOR

1. Overall Performance during the Second Plan Period

1.1 The Role of Agriculture in the Economy

The broad agricultural sector, which includes plant production, animal husbandry, forestry and fisheries, is still the most important single sector of the Cyprus economy. In 1971 it contributed about 20% of the Gross Domestic Product and provided employment to more than 35% of the economically active population, while 69.3% of domestic exports were of an agricultural origin.

1.2 Gross Output and Value Added

During the Second Plan period remarkable progress has been achieved. As Table 1 shows, overall gross output increased by an annual rate of 8.9%, which is higher than the 8.4% rate of growth envisaged by the Plan. At the same time the annual rate of growth of value added was 9.0% as against 8.5% provided in the Plan, which implies that agricultural incomes have risen rapidly.

Both plant and animal production surpassed the target rate of growth set. Plant production increased by 8.7% and animal production by 10.6% per annum, compared with 8.2% and 9.6% respectively envisaged by the Plan. Gross output of the remaining activities increased by 3.4% annually and fell short of the 6.1% Plan target, mainly as a result of delays in the development of adequate domestic industrial outlets for forest products.

Both irrigated and dry farming contributed to the high rate of growth of plant production. The main factors explaining the rapid expansion of the output of irrigated farming are the maturing of young citrus and deciduous plantations, the increase in the irrigated areas and the increased demand from abroad for a number of products, especially lemons and grapefruit, table grapes and early vegetables. In the case of dry farmed crops the increased output was mainly the result of favourable weather conditions for cereals in 1971 compared to those which prevailed in 1966.

TABLE 1 **Agricultural Gross Output and Value Added, 1966, 1970 and 1971**

	Value at Constant 1966 Prices—£mln.			Annual Rate of Growth (%)		
	1966	1970	1971	1967–71 (planned)	1967–70	1967-71
1. Gross Output	37.8	51.1	57.9	8.4	7.8	8.9
Plant Production	23.1	30.0	35.1	8.2	6.8	8.7
Livestock Production.. ..	11.4	17.3	18.9	9.6	11.0	10.6
Other (Forestry, Fishing, Hunting, etc.)	3.3	3.8	3.9	6.1	3.6	3.4
2. Value Added	26.4	33.5	40.6	8.5	6.1	9.0

Source : Compiled by the Planning Bureau on the basis of data provided by the Department of Statistics and Research.

On the other hand, the high rate of growth of animal production during the Second Plan period should be attributed to favourable local demand conditions and the quick response of farmers to new methods and practices.

1.3 Exports

As in the case of the First Plan, total agricultural exports more than doubled during the Second Plan period, having risen from £14.4 mln. in 1966 to £29.2 mln. in 1971, thus surpassing the Plan target. Both raw materials and processed agricultural products increased at a faster rate than planned, i.e. by 115.8% and 72.1% respectively, compared with 112.9% and 48.8% envisaged in the Plan (Table 2).

The main products which contributed to this spectacular growth were citrus fruit, the share of which in total plant origin exports increased from 28.3% in 1966 to 44.8% in 1971. Other products which have increased their share were table grapes, wines, citrus segments and citrus juices. Exports of potatoes, carobs, tobacco, grape must and eau-de-vie-de-vin also increased. The only products which lagged behind in export performance were carrots and raisins.

With regard to animal origin products, the exports of all main products showed an upward trend, especially cheese products, hides and skins and day-old chicks and eggs.

Agricultural Exports, 1966, 1970 and 1971
(£mln.)

TABLE 2

	1966	1970	1971 (planned)	1971 (realized)	Percentage Change (%)		
					1966–71 (planned)	1966–1970	1966–1971
1. Plant Origin Exports ..	**13.9**	**22.7**	**27.0**	**28.1**	**94.2**	**63.3**	**102.2**
1.1 Raw Materials	10.0	17.2	21.4	21.4	114.0	72.0	114.0
1.2 Processed	3.9	5.5	5.6	6.7	43.6	41.0	71.8
2. Animal Origin Exports ..	**0.5**	**0.9**	**0.9**	**1.1**	**80.0**	**80.0**	**120.0**
2.1 Raw Materials	0.1	0.3	0.1	0.4	—	200.0	300.0
2.2 Processed	0.4	0.6	0.8	0.7	100.0	50.0	75.0
3. Total Agricultural Exports ..	**14.4**	**23.6**	**27.9**	**29.2**	**93.7**	**63.9**	**102.8**
3.1 Raw Materials	10.1	17.5	21.5	21.8	112.9	73.3	115.8
3.2 Processed	4.3	6.1	6.4	7.4	48.8	41.9	72.1

Source : Department of Statistics and Research.

1.4 Fixed Investment

Fixed investment in agriculture consists of soil improvement and conservation works, irrigation works, machinery and implements, animal stables, etc. During the period of the Second Plan an amount of £16.8 mln.(1) was invested as against £24.0 mln. envisaged by the Plan. Although the realized volume of investment fell short of the Plan targets, the target for gross output was surpassed. This may be due to a number of factors, such as more economic allocation of investment during the Plan period and favourable effects on output from investment in previous years, as for example, in dams and other irrigation works. In addition, output has increased through means which do not require fixed investment, such as the use of better seeds, better plant and animal nutrition and protection, favourable weather conditions etc. It is estimated that during the Second Plan fixed investment by Government amounted to £4.4 mln. or 26% of total fixed investment.

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(1) At 1966 prices. Includes investment in major and minor irrigation works.

1.5 Land and Water

Two of the main factors responsible for the increase of agricultural production are land and water. During the Second Plan period agricultural cultivated land (including fallow land) increased by 30,000 donums at the expense of scrub, deserted or otherwise uncultivated private land (Table 3). On the other hand, grazing land increased by 111,000 donums. Government operated a number of projects aiming at increasing and improving grazing land, such as the pasture and fodder improvement project, the mixed farming project, the kafkalla land improvement project etc.

TABLE 3 **Area of Cyprus by Broad Use, 1966 and 1971**

	1966		1971	
	Donums (000's)	%	Donums (000's)	%
Agricultural Land	**4,530**	**65.5**	**4,394**	**63.6**
of which—				
(i) Cultivated Land (incl. fallow) ..	3,430	49.6	3,460	50.1
(ii) Scrub, deserted or otherwise uncultivated Land	1,100	15.9	934	13.5
Grazing Land : Communal Property and Vacant State Lands	**609**	**8.8**	**720**	**10.4**
Forest Land : State, Communal and Private Forests	**1,296**	**18.7**	**1,296**	**18.7**
Town and Village Sites, Roads, Rivers, River Beds, etc.	**480**	**7.0**	**505**	**7.3**
Total Area of Cyprus ..	**6,915**	**100.0**	**6,915**	**100.0**

Sources : Department of Agriculture, Department of Forests, Planning Bureau.

During the Second Plan period irrigated land increased by 34,000 donums. This was made possible through the completion of major and the construction of minor Government water projects and through the related activities of the private sector. For a detailed exposition of the water development programme reference is invited to the Chapter on Water Resources.

1.6 Employment

The rapid increase in agricultural production resulted in an increase of labour requirements. During the Second Plan period these needs have been met through a reduction of underemployment and further mechanization of various agricultural activities. However, seasonal shortages of labour during peak periods have continued to exist. While the Second Plan estimated that the agricultural labour force would remain constant, it has actually dropped from 97,600 in 1966 to 96,200 in 1971. Moreover, increased employment opportunities outside agriculture have enabled a combination of part-time farming with commuting to the towns on a larger scale. According to a survey carried out in 1970, as part of the studies undertaken by the Cyprus Water Planning Project, which covered 10 villages in the Paphos District, only 50.7% of the farmers interviewed were fully employed in agriculture ; the remaining devoted part of their time to other activities. The percentage of the latter varied from village to village.

1.7 Agricultural Credit

The major sources of supply of agricultural credit have been the Government, the Co-operative System and the Commercial Banks.

Long-term credit to individual farmers is provided mainly by Government through the Central Cooperative Bank for general agricultural development purposes under Law 56/62. These loans are intended to facilitate the purchase of land for consolidation and formation of larger more viable holdings, the erection of farm buildings, planting of trees, purchase of animals, levelling and soil conservation, irrigation, etc. Short term credit is mainly provided by village cooperatives.

During the period 1967–1971 an amount of £3.4 mln. was made available by Government in the form of low-cost credit. Of this, £1.6 mln. was provided for general agricultural development purposes, about £500,000 for water use improvement, about £32,000 for fisheries development, £45,000 for animal husbandry and £1.2 mln. for water development purposes (including domestic water supplies). Some 31% of the credit supplied through the Cooperative Central Bank was used for the purchase of agricultural machinery and implements, 24% for land improvement and extensions, 11% for the acquisition of land and water, 11% for the erection of stables and the establishment of pig and poultry units, 17% for the purchase of animals and 6% for various other activities. Finally, the Commercial Banks increased their outstanding advances to agriculture from £9.7 mln. in 1966 to £12.0 mln. in 1971.

1.8 Extension Services

A fundamental pre-requisite for the success of the agricultural development programme is the ability of farmers to introduce the necessary changes in agricultural practices and to substitute modern, more advanced and enterpreneurial methods of production for the traditional methods and techniques in order to achieve a progressive restructuring of the pattern of agricultural and animal husbandry output and a substantial rise in productivity.

In this respect, the extension service is of crucial importance. As stressed in the Second Plan : "The extension service, as the principal teaching and training arm of the Ministry of Agriculture, is one of the key services—if not the key service—in raising productivity through farmer education and this in turn is an essential element in the proposed strategy of development ". The aim and function of the service is to train, inform and guide the farming community on the adoption of modern scientific agricultural practices and the implementation of Government's agricultural policy. The extension service performs in addition a number of regulatory and administrative functions such as the assessment of damage caused by natural calamities, collection of statistical data on agricultural production etc.

During the Second Plan period the Extension Services of the Ministry of Agriculture and Natural Resources were further strengthened through the recruitment of additional scientific staff. Within this service, the home economics programme which started in 1965 has continued its operations. The programme is presently implemented in 41 villages all over the Island.

1.9 Mechanization

Mechanization in agriculture has proceeded at a fast pace during the last five years as indicated by Table 4, which shows the imports of agricultural machinery and equipment during the period 1967–1971.

Imports of Agricultural Machinery and Equipment, 1967-1971

(£)

TABLE 4

	1967	1968	1969	1970	1971
1. *Machinery for cultivating and preparing the soil :*					
(*a*) Ploughs	13,815	32,353	29,765	13,215	13,113
(*b*) Harrows	1,149	3,802	4,892	1,933	16,811
(*c*) Other	172,578	130,661	113,888	90,827	90,943
2. *Tractors :*					
(*a*) All types of tractors	615,658	790,931	1,129,163	914,927	1,100,251
(*b*) Crawler	3,445	—	—	—	—
3. *Machinery for harvesting, threshing and sorting :*					
(*a*) Combines	75,026	66,295	133,456	147,033	183,022
(*b*) Mowers	2,288	4,276	10,345	5,180	25,800
(*c*) Other Machinery	16,285	21,533	59,197	28,592	146,225
4. *Irrigation Equipment :*					
(*a*) Water turbines & other water engines	—	2,301	1,317	667	704
(*b*) Other stationary diesel engines	266,810	184,975	173,194	231,664	196,853
(*c*) Other pumps (hand pumps, power pumps, centrifugal, etc.)	131,228	184,154	259,960	234,667	262,608
(*d*) Generators	3,326	6,667	11,199	14,412	32,963
(*e*) Motors	14,834	15,984	18,181	28,262	32,287
5. *Spraying Equipment :*					
(*a*) Hand operated sprayers	71,457	5,435	8,353	13,721	16,113
(*b*) Mechanical sprayers		17,014	7,066	26,858	20,487

Source : Department of Statistics and Research.

The major achievement so far has been the complete or nearly complete mechanization of farming operations in the central plains, in the areas of the terra rossa soils and in the citrus producing areas. In these areas tractors, cultivating machinery, combines and spraying machinery are widely used. In the hilly or semi-hilly areas, however, the cultivation is still carried out to a large extent with draft animals.

As a means of encouraging the mechanization of agricultural activities, organized training courses were conducted in agricultural centres on the operation, use and maintenance of new types of machinery. Specialized machinery, such as grain and fertilizer drills, row crop sprayers and hay making equipment are leased to farmers at a small charge. For demonstrational purposes a major agricultural machinery show was organized annually in cooperation with local agents and distributors of machinery.

1.10 Land Consolidation

The Land Consolidation Law was enacted in 1969. The main objectives of the Law are : (*a*) The creation of consolidated holdings well laid out and with good access, and (*b*) the enlargement of small holdings in order to establish viable farm units. The realization of these objectives has been entrusted to the Land Consolidation Authority, established under the provisions of the Law.

Some of the problems of land fragmentation are tackled by the farmers themselves. Thus, small or absentee owners do not usually cultivate their land, but prefer to lease their plots to other farmers. On the other hand, the problem of mechanized cultivation resulting from the small size of many farm units in dry-farmed areas is often overcome by giving the ploughing, sowing and harvesting out to contract.

However, land consolidation proper and the creation of viable plots had to be gradually introduced for the sake of rationalization and development of agricultural production. Work has already started at Kissonerga, Palekhori, Akrounda, Phinikaria and Chloraka. Preliminary work has also been initiated in the villages of Arsos, Prastio (Kellakiou) and Nea Sparti. It is too early to assess the results of these schemes, but it is expected that the advantages of land consolidation once seen will convince the interested farmers of its usefulness.

1.11 Meteorology

The Government Meteorological Office deals mainly with climatological and hydrometeorological work, while the R.A.F. Meteorological Office deals with synoptic meteorology and provides weather forecasts for aviation and the general public.

Broadly speaking, there are three categories of demand for meteorological services. Firstly, there is a need for sufficient and exact data prepared in suitable statistical form from representative meteorological stations in the different agroclimatic or hydrometeorological zones. Secondly, there is a need for detailed forecasts and forecast-warnings concerning temperatures and precipitation, frost, hail and gales, state of sea and sea temperatures, snow cover and floods in the different areas of the country. Thirdly, more specific meteorological data are required for planning and operational work concerning the selection of crops and species, the fight against plant diseases and pests, the building of dams and reservoirs, of culverts and bridges, the rate of evaporation and of evapotranspiration, the prevention of damage by frost and winds.

Presently, the functions of the Meteorological Office are connected with :

(*a*) collection of climatological and rainfall data all over the Island. Climatological data comprise in addition to precipitation, air temperatures at screen height, minimum air temperatures at earth's surface, atmospheric humidity etc. ;

(*b*) checking, processing, and classification of records in suitable statistical form for applied purposes ; and

(*c*) distribution of data on a routine basis or upon request to Government Departments or individuals for specialized use.

1.12 Government Development Expenditures

As will be seen from Table 5, realized Government development expenditures on the broad agricultural sector (excluding water development and water use improvement) during the period under review amounted to £8.1 mln. compared with the target allocation of £8.65 mln. It could thus be said that the Government has approximately hit the overall agricultural development expenditure target. As regards certain specific activities, there have been deviations from the original plans due to a variety of reasons. Thus, difficulties were encountered at the beginning with the implementation of the mixed farming project because of the relatively initial poor response by farmers in establishing new stables and mandras. The rate of implementation of the animal husbandry programme was also below the target, mainly because of the slow progress of the cattle and goat breeding and promotion activities. On the other hand, the supply of agricultural credit exceeded the amount allocated. A high degree of performance has also been realized with regard to Government farms, stations and nurseries reflecting the emphasis laid on the experimentation with improved varieties of plants and their propagation to interested farmers.

Development Expenditures on the Broad Agricultural Sector, 1967–1971

TABLE 5 (£000's)(1)

	Planned	Realized
A.—AGRICULTURAL DEVELOPMENT :		
1. Plant Production (including Land Consolidation) ..	5,050.0	4,975.1
2. Agricultural Research	750.0	866.6
B.—ANIMAL HUSBANDRY	1,160.0	769.0
C.—VETERINARY SERVICES	440.0	353.0
D.—FOREST DEVELOPMENT	850.0	775.9
E.—FISHERIES DEVELOPMENT	400.0	314.5
Total	**8,650.0**	**8,054.1**

Sources : Financial Reports and Ministry of Agriculture and Natural Resources.

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(1) Does not include expenditure on water use improvement and water development.

2. Problems of Future Development

The development of the agricultural sector is coming up against a number of serious problems for which solutions should be sought during the Third Plan period. Some of these problems are :—

(a) *Lack of Adequate Water for Irrigation*

Presently, about 12% of the cultivated land is irrigated. Since its average yield per donum is about nine and a half times more than that of dry land, irrigated crop production plays a decisive role in the development of the agricultural sector. There are indications that shortage of water will bring about a slackening in the rate of increase of irrigated crops in the near future. On the other hand, in certain areas because of overpumping there has been a drop of groundwater levels and a rise in the salt content of the water. On top of this there is the problem of the most efficient use of water resources for irrigation so as to reduce wastage to the minimum.

(b) *Land Fragmentation and Viable Holdings*

An indication of the extent of land fragmentation is provided by the 1960 Census. According to the Census the number of holdings amounted to 69,445 and their average size was 46.6 donums. About 41% of the holdings representing 8% of the area were of a size less than 20 donums each, while 10.6% of the holdings representing 43% of the area had an average size exceeding 100 donums each. The holdings were considerably fragmented. Thus, each holding of an average size of 46.6 donums was composed of 9.5 pieces on average.

Land fragmentation impedes the establishment of viable units. According to a survey conducted by the Cyprus Water Planning Project, which covered 27 villages in the Paphos District, in terms of size only 27.5% of the area surveyed fell in the category of viable farms. However, a viable unit does not depend solely on the size of the holding, but should also take account of the type of land, whether it is irrigated or not, the crops to be cultivated, etc.

(c) *Fallow Land*

It is estimated that 800,000 to 900,000 donums of land is left fallow each year because of the system of rotation in the cultivation of cereals. This land constitutes an under-utilized resource, its yield being negligible. Its proper utilization requires a change in the present system of cultivation and/or the introduction of other crops on which experiments are presently carried out. So far the most suitable alternative to cereals appear to be various kinds of fodder crops.

(d) *Marketing*

The marketing, both internal and external, of certain agricultural products needs further improvement and rationalization. More details are given in the Chapter on Trade and Marketing.

(e) *The Need to Improve the Competitiveness of Agricultural Production*

Competitiveness should encompass both price and quality of products. The association with the European Economic Community makes this task all the more urgent. Presently, the price competitiveness of Cyprus agricultural products within the E.E.C. (as measured by c.i.f. price) appears to be satisfactory for certain products, e.g. oranges, lemons and grapefruit and less satisfactory for other products, e.g. potatoes, carrots, table grapes. But there is also scope for improving the competitiveness of products in the internal market and most especially of animal origin products.

(*f*) *Crop Insurance*

Two funds are presently operated, the Agricultural Provident Fund and the Drought Relief Fund. The first operates on a voluntary basis and compensates participating farmers for damage caused to wheat by hail and rust, as well as to barley, vines and deciduous fruit trees by hail. The Drought Relief Fund provides assistance to cereal growers who are hit by drought. However, in order to render the farming profession more secure there appears to be a need for the introduction of a more comprehensive scheme to cover losses due to unavoidable natural calamities, such as ~~hail~~, drought, frost, rust. The introduction of such a scheme which has been approved by the Government will be gradual.

(*g*) *Seasonal Shortage of Labour*

The question of the seasonal shortage of labour affects certain agricultural activities such as the picking of potatoes, carrots, carobs, olives and citrus. A permanent answer to this problem might be found in using more widely mechanical means of harvest.

(*h*) *Subsidies*

The largest proportion of subsidies paid in agriculture during the Second Plan period (more than 80%) might be regarded as primarily income support subsidies for cereal and vine producers. The balance were either relief subsidies or subsidies designed to raise productivity and direct resource allocation so as to enable the attainment of the desired structural change and modernization in agriculture.

3. The Third Five-Year Plan

3.1 Long-term Objectives

The long-term objectives of agricultural development, as described in the Second Plan, are to increase land and labour productivity and to create those competitive conditions in agriculture which will enable the disposal of agricultural production both locally and abroad. More specifically, the aims of the long-term policy are :—

(i) to encourage the output of those commodities (*a*) which can be produced under competitive conditions ; (*b*) the production of which takes account of the existing and anticipated resources of the country and (*c*) which can be produced efficiently under existing and anticipated institutional and organizational arrangements ;

(ii) to increase per donum and per animal yields, improve quality, reduce unit costs of production and adapt production to expected demand conditions ;

(iii) to increase the size of land holdings, so that the latter may become viable and efficient units of production ;

(iv) to restructure and reorient cropping patterns towards high value unit crops, export crops or crops which replace imports, crops which conserve natural resources (e.g. soil and water) and crops which can improve the nutritional habits of the people, especially those in the lower income brackets ;

(v) to step up animal production with a view to strengthening the balance of payments position and improving the nutritional standards of the people ;

(vi) to adopt a more rational subsidy and credit policy in furtherance of the above objectives, which will lay more emphasis on increasing productivity rather than on maintaining or protecting inefficient and unprofitable activities or crops ;

(vii) to improve further the functioning of the market mechanism and the marketing of agricultural products both internally and abroad ; and

(viii) to encourage farm mechanization on a rational and economic basis.

3.2 Objectives of the Third Plan

The main objectives of the Third Plan will be :

(i) to encourage restructuring of the sector through further expansion of irrigated land, introduction of new high yielding varieties of crops and improved breeding stock of various types and quantitative as well as qualitative improvements in yields ;

(ii) to continue the system of subsidization as part of an incomes policy for agriculture, but at the same time to effect such modifications as would be necessary to facilitate the attainment of the desired structural change and modernization in agriculture ;

(iii) to encourage the establishment of viable holdings and livestock units ; and

(iv) to improve marketing arrangements and to intensify the efforts for expanding existing and the tapping of new markets.

4. Targets and Prospects of the Third Plan

4.1 Gross Output and Value Added

During the Third Plan, total agricultural gross output, depending on water conditions, is expected to increase at an annual rate of 6.9% as against 8.6% realized during the Second Plan(¹). The output of the main subsectors of plant and animal production will increase at an annual rate of 6.4% and 8.2% respectively compared with a rate of growth of 8.5% and 10.5%, attained during the Second Plan period (Table 6).

(¹) At 1970 prices.

TABLE 6 **Agricultural Gross Output and Value Added, 1966, 1971 and 1976**

	Value at 1970 Constant Prices—£mln.			Annual Rate of Growth (%)	
	1966	1971	1976	1967–71	1972–76
1. Gross Output	**41.8**	**63.1**	**88.2**	**8.6**	**6.9**
Plant Production	25.5	38.3	52.2	8.5	6.4
Livestock Production	12.4	20.4	30.2	10.5	8.2
Other (Forestry, Fishing, Hunting, etc.)	3.9	4.4	5.8	2.4	5.7
2. Value Added	**29.2**	**44.3**	**62.2**	**8.7**	**7.0**

Source : Department of Statistics and Research, Planning Bureau.

The main reason for the envisaged slower growth of the overall production is the fact that the year taken as a basis (1971) was an extremely favourable year for cereals, while the last year of the Plan (1976) is reckoned to be an average year. The slackening in the rate of growth of plant production is also to be attributed to the limitations imposed by groundwater resources. Moreover, marketing conditions for some products may not be as favourable during the Third Plan period as during the Second. As far as animal production is concerned, it is expected that local demand is not likely to expand at the same pace as during the Second Plan because of the gradual saturation of the home market for certain animal husbandry products, the competitive disadvantage and the inadequacy of processing outlets for others. The latter reasons may also prevent a faster than envisaged expansion of exports. The output of other agricultural activities is expected to increase at an annual rate of 5.7% compared to 2.4% realized during the Second Plan. This acceleration in the rate of growth is expected to result mainly from an expansion in the output of fisheries and forestry.

Finally, value added is expected to increase at an annual rate of 7.0%, which is lower than the 8.7% annual growth realized during the Second Plan.

4.2 Exports

Total agricultural exports are expected to grow less rapidly compared to the growth attained during the Second Plan period. As the value of exports is expressed at current prices much of course will depend on the price level. Exports of agricultural products in raw material state are expected to increase at a faster pace than processed products due to an increase in the proportion of fresh fruit, mainly citrus, and table grapes (Table 7).

With the exception of carrots and tobacco, exports of all other main plant origin products are expected to increase. Lemons, grapefruit, table grapes as well as citrus segments and juices are expected to grow faster than other products and to increase their share in total plant origin exports. Moreover, a high rate of growth is anticipated in the export value of day old chicks and eggs, various types of cheese and hides and skins.

TABLE 7

Agricultural Exports, 1971 and 1976

(£mln.)

	1971	1976	Change (%)	
			1966–1971	1971–1976
1. Plant Origin Exports	**28.1**	**48.1**	**102.2**	**71.2**
1.1 Raw Materials	21.4	37.8	114.0	76.6
1.2 Processed	6.7	10.3	71.8	53.7
2. Animal Origin Exports	**1.1**	**2.0**	**120.0**	**81.8**
2.1 Raw Materials	0.4	0.8	300.0	100.0
2.2 Processed	0.7	1.2	75.0	71.4
3. Total Agricultural Exports	**29.2**	**50.1**	**102.8**	**71.6**
3.1 Raw Materials	21.8	38.6	115.8	77.1
3.2 Processed	7.4	11.5	72.1	55.4

Source : Department of Statistics and Research, Planning Bureau.

4.3 Investment Requirements

Total fixed investment required in the broad agricultural sector (including water development) during the Third Plan is estimated at £28 mln. at constant 1970 prices, of which about £16.5 mln. will be in machinery and equipment and the remainder in construction works. The Government's share is estimated to amount to about 26% and will be mainly composed of construction works related to dams, distribution systems and other irrigation works.

Apart from the usual projects, the initiation of certain new projects, such as the establishment of viable units, livestock areas, replanting of vines, will result in a diversification of investment expenditure in this sector. In addition, the gradual shift towards intensive cultivation will increase the capital needed in the production process. More specifically, the purchase of machinery and equipment will be selectively encouraged in order to cover more agricultural activities and the utilization of existing ones will be improved through the use of more implements.

4.4 Land Requirements

As in the case of the Second Plan, cultivated land is expected to increase by 30,000 donums during the Third Plan period at the expense of scrub, deserted or otherwise uncultivated land. The same increase is expected in the case of grazing land.

The limits imposed by scrub and deserted land are gradually narrowing. Furthermore, the new land brought under cultivation usually is less productive. These factors underline the emphasis which should continue to be given on intensive cultivation through the better utilization of the factors of production.

4.5 Labour Requirements

The trends which characterized employment in agriculture during the period 1967–71 are expected to continue during the Third Plan period. Increasing mechanization coupled with favourable opportunities for employment in other sectors are expected to result in a further decrease of the agricultural labour force which is estimated to be around 95,000 in 1976. Further reduction is also expected in underemployment as a result of the implementation of projects aiming at the enlargement of holdings as well as projects for the encouragement of mixed farming. Finally, the proposed encouragement of mechanization of certain labour intensive agricultural activities, such as the harvesting of potatoes, carrots, olives, etc., will mitigate the seasonal problem of labour shortage.

4.6 Agricultural Credit

In order to realize the targets of the Plan, an increased amount will be required for the broad agricultural sector (including water) in the form of credit to be allocated from Government development funds. These funds will be provided through the Loan Commissioners and the Cooperative Central Bank.

During the period of the Third Plan, it is proposed to introduce a comprehensive scheme for encouraging development on a viable farm basis. The scheme will provide for long-term credit at reasonable interest rates to selected farmers, who will join the project, to facilitate the establishment of " viable holdings ". The size of such a holding will vary according to the area and the type of farming practised.

Apart from Government, other agencies for the supply of agricultural credit will continue to be the Cooperatives, the Commercial Banks, the Cyprus Development Bank and private sources.

4.7 General Education

According to the 1970–71 Survey on Educational Statistics, out of 67,529 elementary school children in Greek Schools, 44,164 were in the villages and 23,365 in the towns. Out of 83 Greek secondary schools 24 were located in rural areas accounting for 22% of the teachers and 19% of pupils.

There is one school providing secondary agricultural education in Cyprus, the Morphou Agricultural Gymnasium and two Centres for agricultural vocational training for farmers only, one located at Morphou and the other at Trikoukia. Certain eight-class elementary schools also provide some agricultural education. There is also one institution which provides post-secondary education, i.e. the Forestry College at Prodromos. The possibility of establishing a training programme to provide systematic education and training to sub-professional staff employed in the various Departments of the Ministry of Agriculture and Natural Resources and private individuals will be examined during the Third Plan period.

4.8 Extension Services

At present the Extension Services of the Ministry of Agriculture and Natural Resources comprise the following :

(*a*) Headquarters, district offices, beat agricultural staff and district agricultural specialists dealing mainly with advisory and regulatory activities as well as the application of agricultural policy.

(*b*) Headquarters and local home economics staff dealing with the home economics aspects of the programme within the overall extension work plan.

(c) Publicity staff at headquarters, dealing with the preparation of agricultural radio broadcasts, T.V. programmes, issue of posters, technical publications, etc.

During the period of the Third Plan the Extension Services will be further stengthened through the appointment of additional qualified staff and the coverage will thus be extended.

4.9 Mechanization

Mechanization in agriculture will be further encouraged and rationalized. The policy will aim towards the efficient utilization of existing equipment through the use of more implements and the further mechanization of labour intensive agricultural operations. Machinery which hold promise of lowering costs are : Stone collecting machines, the notched disc plough and the chisel plough, both designed for dry climates, combined seed and fertilizer drills, row crop sprayers, harvesting machines for potatoes, carrots, olives, carobs and cherries, hay making machines, etc.

The demonstration of new and specialized machinery and implements will continue, and a special programme will be introduced designed to carry out experiments and research on the most rational and economic use of machinery through cost studies of the mechanization of various agricultural operations in order to establish the optimum farm size justifying an economic investment in machinery, comparative testing of various types of machinery and evaluation of their performance, improvement and modification of implements to suit best the purpose for which they are used under prevailing local conditions and research studies of fundamental problems related to a particular machine, such as the study of soil dynamics in relation to tillage and traction.

4.10 Land Consolidation

The first projects on land consolidation expected to be completed are those on which preparatory work has started. Priority will continue to be given to irrigated areas where Government projects such as dams and water use improvement programmes exist or are to be implemented.

Parallel to land consolidation proper, which is by nature a long-term process, the possibility of introducing an agricultural lease act which will ensure a more economic exploitation of agricultural land will be examined. Surveys conducted in the Paphos District indicated that 36% of the lessees were not exclusively engaged in agriculture and 74% of the land was leased for one year only. The proposed Law will be designed to improve the terms of the lease by providing, *inter alia*, for the registration of the lease, the establishment of minimum period of tenancy, etc.

4.11 Meteorology

The need has been established for a Meteorological Service which will eventually be in a position to supply sufficient meteorological data, forecasts and forecast-warnings. During the Third Plan the existing service will be expanded in order to play more efficiently its role in agricultural and other activities. The intention is that the Service should be gradually developed so as to be in a position eventually to take over forecasting responsibilities involving, among other things, forecasts for aviation, should the need arise.

4.12 Government Development Expenditures

Total Government development expenditures earmarked for the broad agricultural sector during the Third Plan are shown in Table 8. The increased allocation is an indication of the emphasis which it is proposed to lay on the various activities covered. An increased amount is provided for credit in order to meet the needs of the project for the encouragement of viable holdings. The increased amount provided for vegetables and crops reflects the emphasis given on further seed improvement. On the other hand, the implementation of the vine replanting project will result in increased expenditure under the land use improvement activities and the tree planting and improvement projects. Finally, increased amounts are also envisaged for the development of animal husbandry, for agricultural research, the strengthening of the veterinary services (including the eradication of echinococciasis), forest development, land consolidation and the strengthening of the meteorological service.

Development Expenditures for the Broad Agricultural Sector, 1967–1971 and 1972–1976

TABLE 8 (£000's)(1)

	Realized 1967–71	Planned 1972–76
A.—AGRICULTURAL DEVELOPMENT :		
1. Plant Production	4,975.1(2)	7,300.0
2. Agricultural Research	866.6	1,300.0
3. Land Consolidation	—	600.0
4. Meteorological Services	—	200.0
B.—ANIMAL HUSBANDRY	769.0	1,700.0
C.—VETERINARY SERVICES	353.0	950.0
D.—FOREST DEVELOPMENT	775.9	1,225.0
E.—FISHERIES DEVELOPMENT	314.5	550.0
Total	**8,054.1**	**13,825.0**

Source : Financial Reports and Planning Bureau.

B. PLANT PRODUCTION

1. General Progress during the Second Five-Year Plan

During the Second Plan period remarkable progress was achieved in the sub-sector of plant production as indicated by the growth in gross output and exports of plant origin products, as well as by the pace of implementation of various agricultural projects and relevant policy measures.

1.1 Gross Output

Table 9 shows the evolution of plant production by broad category. Plant production increased from £22.9 mln. in 1966 to £34.5 mln. in 1971 at constant 1966 prices. Thus the planned annual rate of growth of 8.2% was slightly exceeded by the actual rate of 8.5%.

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(1) Excludes expenditures on Water Use Improvement and Water Development.

(2) Includes expenditures on Land Consolidation.

Irrigated crops constituted the most dynamic category. The annual rate of growth realized (10.8%) exceeded slightly the Plan target of 10.4%. The very high rate of growth of the group of tree crops, i.e. 16.3% per annum should be attributed to the increasing production of young citrus and deciduous plantations which have reached the age of fruit production, as well as to satisfactory marketing conditions mainly for citrus. Within the group of citrus the crop structure shifted in favour of grapefruit, which in 1971 comprised about 16% of the area under citrus, as against 11% in 1966. This shift was in line with the forecasts on more favourable marketing conditions for grapefruit. In fact, there has been a steady increase in the export prices of this product during the last five years. The production of deciduous fruits grew by 8.1% per annum. The main products which have contributed to this increase were apples, peaches and apricots. This result is largely to be attributed to the deciduous tree cultivation project, initiated in 1966, involving the establishment of demonstration plots with improved varieties of deciduous fruits and the development of new land in hill areas planted with such fruit trees.

The group of irrigated field and other non-tree-crops comprises potatoes, early vegetables, carrots and irrigated green fodder. During the period 1967–71 an annual growth rate of 6.5% was realized compared to the target of 5.3% set in the Plan. This high growth rate is due both to an increase in per donum yields and the area cultivated. The area under field crops increased by 7,000 donums while a shift was observed in favour of the cultivation of green fodder and early vegetables at the expense of carrots. Further expansion of this latter group of products was limited by water shortage, mainly in the case of potatoes (the area cultivated with potatoes remained constant at 65,000 donums) and by marketing problems. With the exception of carrots, the value of production of all other products in this group increased satisfactorily (green fodder by 13.7%, early vegetables by 7.1% and potatoes by 6.1% per annum).

TABLE 9

Production by Broad Category of Crops, 1966, 1970 and 1971

	Value of Output at Constant 1966 Prices (£mln.)			Annual Rate of Change (%)		
	1966	1970	1971	1967–71 (planned)	1967–70	1967–71
A.—Irrigated Crops	**11.6**	**17.2**	**19.4**	**10.4**	**10.4**	**10.8**
1. Field and Other Non-Tree Crops	7.0	10.1	9.6	5.3	9.6	6.5
2. Tree Crops	4.6	7.1	9.8	17.5	11.4	16.3
B. Dry-land Crops	**11.3**	**10.3**	**15.1**	**5.7**	**—2.3**	**6.0**
1. Field and Other Non-Tree Crops	4.9	4.4	8.5	6.2	—2.9	11.6
2. Trees and Vines	6.4	5.9	6.6	5.3	—2.0	0.6
Total All Crops (A+B)(1) ..	**22.9**	**27.5**	**34.5**	**8.2**	**4.7**	**8.5**

Source : Compiled by the Planning Bureau on the basis of data provided by the Department of Statistics and Research.

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(1) Does not include various green salad products and firewood estimated between £0.2–£0.3 mln., as well as vine subsidies per donum estimated at £0.2 mln. in 1970 and £0.3 mln. in 1971.

Within the category of dry farmed crops, field and other non-tree crops experienced an annual rate of growth of 11.6% as against 6.2% envisaged in the Plan. The main products of this group are wheat and barley, which during the period under review grew by 11.5% and 17.1% per annum respectively. This difference in growth of the two products is in line with the Government policy to encourage the livestock industry by expanding the production of barley. The increase in the production of cereals is the result of the expansion in the area cultivated by about 11% and the increase in per donum yields by 29% for wheat and by 142% for barley during the five-year period. The latter should be mainly attributed to satisfactory weather conditions in 1971. The wheat and barley improvement project aiming at encouraging more mechanization and other improved methods of production has also contributed to the expansion of output. Other products within this group are legumes, dry farmed fodder crops and industrial crops. Legumes recorded an annual increase of 6.8%, dry farmed fodder crops 4.9% and industrial crops 5.1%.

The production of dry-land trees and vines increased by only 0.6% per annum, thus falling short of the Plan target of 5.3%. This was due to the fact that 1971 was not a good crop year for carobs and olives, which experienced a decrease in production by 47% and 12% respectively over the five-year period. This decrease was more than compensated by a rise in the production of vines and almonds, which grew annually by 5.5% and 2.7% respectively.

1.2 Exports

During the Second Plan period plant origin exports increased by 102.2% and surpassed the Plan target of 94.2%. The main products which contributed to this expansion were: citrus, table grapes, wines, carobs and potatoes.

Citrus : The value of exports of citrus and citrus juices and segments increased from £4.2 mln. in 1966 to £13.8 mln. in 1971. The export value of grapefruit increased by 292%, that of lemons by 248% and that of oranges by 188% over the five-year period. In the case of lemons and grapefruit the increase was the result of both increased quantities and higher prices, while in the case of oranges the increase in quantity was the main contributor.

Potatoes : Potatoes was the second most important export item. Their export value increased from £3.4 mln. in 1966 to £4.6 mln. in 1971. The increase was due to an expansion in the quantity exported by 68% ; on the other hand prices decreased.

Grapes and Other Vine Products: Exports of fresh grapes, raisins, wines and spirits and grape must increased from £3.2 mln. in 1966 to £5.8 mln. in 1971. The main contributors to this expansion were table grapes and wines, which increased by 183% and 106% respectively, owing to an upward trend in both quantities and export prices.

Carobs : The export value of kibbled carobs and carob products increased from £0.9 mln. in 1966 to £1.1 mln. in 1971 due to an expansion in the quantities exported.

Tobacco : The local cigarette industry continues to utilize only small quantities of Cyprus tobacco. During the period of the Second Plan the annual average quantity exported amounted to about 1,200 tons while in 1971 the quantity exported was 1,703 tons due to stocks accumulated in previous years ; thus the foreign exchange earnings from tobacco exports increased from £0.2 mln. in 1966 to £0.6 mln. in 1971.

Carrots : The export value of carrots decreased from £0.6 mln. in 1966 to £0.5 mln. in 1971 due to a downward trend in quantities exported ; land under carrots is gradually being cultivated with more remunerative crops.

Early Vegetables : The Second Plan gave emphasis on the production of early vegetables and specific projects were introduced for this purpose. Production, marketing and transportation arrangements could be improved. The export value of early vegetables in 1971 amounted to £0.7 mln. as against the target of £0.8 mln. set in the Plan.

Miscellaneous : Export earnings from other plant products amounted to £1.0 mln. in 1971.

1.3 Progress in Attaining the Second Plan Targets and Objectives

The programmes, projects and policy measures for attaining the Plan targets and objectives could be classified under a general heading covering the whole sub-sector of plant production and under specific measures related to irrigated and to dry-land crops.

1.3.1 General Measures

(i) CROP PATTERN AND LAND USE

One of the aims of the Second Plan was to restructure and reorient cropping patterns towards (*a*) high value unit crops, (*b*) export crops or crops which replace imports, (*c*) crops which conserve natural resources, e.g. soil and water, and (*d*) crops which can improve the nutritional habits of the people.

The restructuring of cropping patterns requires in the first place a shift in favour of irrigated crops. Indeed, the production of irrigated crops increased by 61.9% during the Second Plan period, while their share in total plant production increased from 50.7% in 1966 to 56.2% in 1971. Experimental work was carried out on the cultivation of avocado which fetches high prices in European markets. This crop is considered to be in most cases an alternative to citrus, with a more remunerative and constant market. Flowers, which fetch high export prices, were also encouraged but the problem here is that expansion in cultivation requires much expert knowledge and experience as well as considerable capital investment and adequate marketing arrangements.

In the field of dry-land crops the production of barley increased at a faster pace than that of wheat ; this is consistent with Government policy which aims at encouraging barley and durum wheat at the expense of soft wheat. Changes have also been effected with regard to the land use structure.

As shown in Table 10, the irrigated area increased by 12.7% during the period 1967–71. The area under field and other non-tree crops increased by 5.2% ; a shift was observed within this group in favour of fodder crops and early vegetables at the expense of carrots. The area under irrigated tree crops, which consists mainly of citrus and deciduous fruit trees, increased by 20.5%. Within the area cultivated with citrus, a shift was observed in favour of grapefruit the percentage share of which increased from 10.6% in 1966 to 16.4% in 1971. Because of water limitations, the area under young citrus trees contracted from 18,000 donums in 1966 to 14,000 donums in 1971. The area cultivated with deciduous trees increased by 12,800 donums as a result of increased cultivation mainly of apples, pears and peaches.

Dry-land area comprises about 88% of total cultivated land. Its yields per donum fluctuate greatly depending on weather conditions. Dry land area increased by 4.6% during the Second Plan period ; the main contributors to this expansion were cereals and grapes ; much of this land was gained through the implementation of the fallow-land utilization project and the recovery of land suffering from soil erosion through various land development and soil conservation projects.

The above developments suggest that there are limits to further extensive cultivation. As a rule, new land brought under cultivation is not as fertile as existing arable land and thus its use is limited to certain crops. On the other hand, water shortages impose restrictions upon the expansion of irrigated land. These trends indicate that emphasis need to be given on intensive cultivation in conjunction with livestock rearing.

Cultivated Area by Main Category of Crops, 1966 and 1971

TABLE 10 (000's *Donums*)

	1966	1971	Change (%) 1966–1971
A. Irrigated Crops	**268**	**302**	**12.7**
1. Field and Other Non-Tree Crops	136	143	5.2
2. Tree Crops	132	159	20.5
B. Dry-Land Crops	**2,161**	**2,260**	**4.6**
1. Field and Other Non-Tree Crops	1,376	1,413	2.7
2. Tree Crops (incl. Vines)	785	847	7.9
C. Total All Crops	**2,429**	**2,562**	**5.5**
1. Field and Other Non-Tree Crops	1,512	1,556	2.9
2. Tree Crops (incl. Vines)	917	1,006	9.7

Source : Compiled by the Planning Bureau on the basis of data provided by the Department of Statistics and Research and the Department of Agriculture.

(ii) YIELDS PER DONUM

A basic objective of the agricultural development programme is to increase the yields per donum of cultivated land. Table 11 depicts the yields per donum for different groups of crops in 1966 and 1971. As will be seen from this table, the yields per donum of irrigated crops are a multiple of those of dry farmed crops and the yields per donum of irrigated crops are growing at a considerably higher rate than those of dry farmed crops. While in 1966 per donum yields from irrigated areas were, on average, equal to eight times those of dry farmed areas, in 1971 they were nine and a half times more. The main crops which contributed to the annual growth rate of 8.2% of the per donum yields from irrigated land during the period 1967–1971 were citrus, potatoes and early vegetables. The opportunities which exist for raising the already high yields per donum of irrigated land were taken up during the period under review through the implementation of schemes providing for the introduction of new varieties of plants, better plant nutrition and protection, etc.

Output per Donum, 1966 and 1971

TABLE 11

	Value of Output at Constant 1966 Prices (£)			Annual Rate of Growth (%)	
	1966	1971 (planned)	1971 (realized)	1967–71 (planned)	1967–71 (realized)
A. Irrigated Crops	**43.3**	**69.3**	**64.2**	**11.0**	**8.2**
1. Field and Other Non-Tree Crops	51.5	71.4	67.1	6.8	5.4
2. Tree Crops	34.8	67.3	61.6	14.1	12.1
B. Dry-Land Crops	**5.2**	**6.5**	**6.7**	**4.6**	**5.2**
1. Field and Other Non-Tree Crops	3.6	5.0	6.0	6.8	10.6
2. Trees and Vines	8.2	9.2	7.8	2.3	—1.0
Total All Crops	**9.4**	**13.5**	**13.5**	**7.5**	**7.5**

Source : Compiled by the Planning Bureau on the basis of data provided by the Department of Statistics and Research.

The per donum yields of dry farmed field crops grew by 10.6% between 1966 and 1971 as a result of better varieties and better methods of cultivation, but mainly because of the favourable weather conditions in 1971. On the contrary, the yields per donum in the case of dry-farmed trees and vines decreased by 1.0% because, as already said, 1971 was a poor crop year for olives and carobs and new carob and olive plantations were still young and, therefore, non-productive.

(iii) PRICES, SUBSIDIES AND CROP INSURANCE

Agricultural Prices : During the Second Plan period domestic and external demand conditions were satisfactory and as a result the average price index of agricultural products increased by 2.5% per annum. The main agricultural products which contributed to this increase were lemons, grapefruit and non-tree crops in the case of irrigated crops and the products of trees in the case of dry land crops.

Subsidies : Despite the above satisfactory overall picture with regard to prices the Government has continued its subsidy and price support schemes (*a*) as an instrument for attaining the Plan targets of restructuring agricultural production and effecting desired improvement and productivity changes ; (*b*) to protect farmers from sudden or cyclical fluctuations in prices which do not reflect the long-term trend or normal market conditions; and (*c*) to raise the incomes of farmers to levels commensurate with the objectives of economic and social development.

The total amount of subsidies paid during the period 1967–1971 was £10.6 mln. (Table 12). The largest proportion (83.8%) of subsidies paid consisted of price and income subsidies and the balance of relief subsidies (10.9%) and subsidies for raising productivity (5.3%).

(*a*) *Incentives for Raising Productivity*

Under this category incentives in the form of subsidies were paid in order to encourage cultivation of improved varieties of crops, improved systems of irrigation, soil conservation works and proper utilization of inputs, through a number of related projects such as the water use improvement project, the soil conservation and tree planting project, the project for the promotion and encouragement of mixed farming, the project for the promotion of hay making etc. A total amount of £564,000 was paid in the form of subsidies during the period 1967–1971 for the above and other related purposes.

Main Agricultural Subsidies, 1967–1971

(£000's)

TABLE 12

	1967	1968	1969	1970	1971	Total 1967–71
A. **Subsidies for Raising Productivity** ..	**115**	**103**	**102**	**118**	**126**	**564**
Soil Conservation Works ..	93	77	75	96	100	441
Water Use Improvement ..	7	11	18	17	20	73
Spraying Equipment, etc. ..	15	15	9	5	6	50
B. **Relief Subsidies** ..	**50**	**277**	**73**	**420**	**330**	**1,150**
Agricultural Provident Fund	50	77	73	70	330	600
Drought Relief Fund ..	—	200	—	350	—	550
C. **Price and Income Subsidies**	**1,352**	**1,295**	**2,013**	**1,745**	**2,480**	**8,885**
Wheat and Barley	871	753	1,495	1,194	1,872	6,185
Vine Products	481	542	518	551	608	2,700
Grand Total ..	**1,517**	**1,675**	**2,188**	**2,283**	**2,936**	**10,599**

Source : Financial Reports, Department of Agriculture.

(*b*) *Relief Subsidies*

Altogether, a sum of £1,150,000 was allocated during the Second Plan in the form of relief subsidies. An amount of £600,000 was contributed to the Agricultural Provident Fund and an additional amount of £550,000 to the Drought Relief Fund for the payment of assistance to farmers in accordance with the provisions of the two schemes.

(*c*) *Price and Income Support Subsidies*

This category of subsidies benefits cereal (wheat and barley) and vine producers. The prices of cereals and vine products are fixed. The Grain Commission buys cereals from the growers at a higher price and sells them at a lower price. In the case of vine products the subsidy has the effect of raising producer prices. Since 1970 an additional subsidy is paid for vines on a per donum basis.

The total amount of subsidies paid during the Second Plan period to cereals and vine producers was £6,185,000 and £2,700,000 respectively. The weaknesses of the present system are examined in later paragraphs.

Crop Insurance : Government policy in this field has been to help farmers insure themselves against damage and risks beyond their control. For this purpose, Government continued operating the Agricultural Provident Fund and the Drought Relief Fund. The Agricultural Provident Fund is financed from shares bought by the farmers and from contribution made by the Government. The Drought Relief Fund is financed partly by the Government and partly by small compulsory contributions on the part of cereal growers.

(iv) SOIL SURVEYS

Assessment of the soil properties and its potential uses is essential for agricultural development and rational land use planning. Two types of surveys are carried out. One is the basic soil survey for the classification of soil into certain homogeneous classes on the basis of morphological, chemical and physical soil properties. The other enables land suitability classifications to be made, especially for irrigation purposes in areas with water development potential. Surveys of the latter type were undertaken during the Second Plan within the Cyprus Water Planning Project and covered an area of about 850,000 donums. So far, the area covered under the basic and specific soil classification and land suitability surveys amounts to 2,700,000 donums. A number of soil and soil suitability maps has been published.

(v) SEED IMPROVEMENT

Seed improvement is a continuous activity. It aims at the improvement of the quality of the seed needed for the production of cereals and other field crops, such as forage crops, industrial crops and vegetables. The effect of good quality seed of the right variety is reflected in increased yields.

To meet the needs of proper seed selection, conservation and certification, a new Seed Production Centre was established in 1964 ; its activities have been gradually expanded and at present about 6,000 tons of certified seed of all types are cleaned, processed and sold to farmers. In addition, a Cereal Seed Farm was established in 1968 at Ayia Erini for the multiplication and purification of cereal seed.

(vi) SOIL FERTILITY AND PLANT NUTRITION

The objectives of the Fertilizer Use Improvement Programme is to promote a more efficient and economic use of fertilizers. The means used are two-fold ; on the one hand, fertilization demonstrations are carried out by the Extension Services. On the other hand, soil and leaf analyses are carried out for each plantation and specific recommendations are made to farmers on the correct types and quantities of fertilizers which should be used in each particular case.

1.3.2 Specific Measures related to Irrigated Farming

(i) WATER

The availability of adequate and permanent water supplies is of paramount importance for the development of irrigated farming. Detailed evaluation of the achievements during the Second Plan period in the field of water development is given in Chapter 10. Here reference is made to such projects as the water use improvement project and the saline irrigation water utilization project and the water control measures.

Water Use Improvement Project : This project was initiated in 1965. Its primary aim is the conservation of water through land levelling and the installation of improved irrigation systems. The target is to increase yields per donum due to irrigation alone by at least 5% and irrigation efficiency by 15–25% in areas where irrigation efficiency can be as low as 40–60%. The project was implemented in all areas of Cyprus, but priority was given to those areas where there is an acute shortage of water for irrigation purposes, i.e. in the Famagusta, Larnaca, Morphou and the Kyrenia regions. In addition, it was extended to areas, such as Limassol and Paphos in conjunction with other water development projects. During the Second Plan period, improved irrigation systems were installed covering an area of 24,208 donums irrigated from boreholes and dams and resulting in an estimated net saving of more than 3.3 mln. cu. m. of water.

Saline Irrigation Water Utilization : This project is confined to certain areas in the Messaoria plain where the boreholes or wells yield saline water not suitable for general farming, but still suitable for the production of certain crops, notably lucerne and fodder beets. Under this project, farmers are encouraged to develop their land and water for the production of lucerne and fodder beets using improved cultural and irrigation practices. During the Second Plan period improved systems were installed over an area of 237 donums resulting in a net saving of water amounting to 39,000 cu. m.

Water Control : The aim of the water control measures is to achieve a balance between extraction of groundwater and replenishment. For this purpose, the Water Suplly (Special Measures) Law was enacted in 1964 ; under this Law an area of 153,000 donums was surveyed during the Second Plan period in the critical areas of Western and Eastern Messaoria, Limassol and Larnaca. It has been estimated that the water requirements for the irrigation of this area will be 124 million cu. m. per year.

(ii) AGRICULTURAL RESEARCH

During the Second Plan period the Agricultural Research Institute expanded its research in the field of plant production.

In the field of horticulture new rootstocks were introduced, tested and now recommended for grapefruit, which are tolerant to the Tristeza virus. As regards deciduous fruit trees, some varieties of apples and cherries were found to be very promising under local conditions and were released for propagation. Promising results were also obtained with regard to some new varieties of vegetables.

In the field of plant protection more efficient chemicals for the control of the bud mite and the mealybug-spectrobates (ectomyelosis) complex of citrus were found and this information was released. Medfly surveys have been carried out which will assist farmers in the timing of bait spray applications. The results of these surveys will also be used in connexion with a possible suppression programme against the medfly. The project for the control of weeds in carrots was completed and the results are implemented by the farmers.

In the field of soil fertility work was carried out on an annual and on a long term basis in order to determine the nutrient requirements of important crops such as potatoes, carrots, citrus, cereals etc. In the field of water use, the optimum irrigation requirements of various crops have been determined and methods of irrigation have been compared from the point of view of water economy.

Finally, with regard to farm management, emphasis was laid on the collection of input-output data of major agricultural crops, the introduction of farm book-keeping in certain farms, the evaluation of agricultural projects and the computation of norm input-output data for major agricultural crops.

(iii) OTHER PROJECTS AND MEASURES

Progress on the implementation of other measures and projects of a continuing nature, designed to attain the Plan targets such as the establishment of avocado demonstration plots, the project for the promotion of vegetables, the use of improved rootstocks for grapefruit and the expansion of pistachio nut cultivation are examined together with proposals for the Third Plan.

1.3.3 Specific Measures related to Dry Farming

About 88% of the total cultivated area of the Island is occupied by dry land crops, mainly cereals, fodder crops, vines, carobs and olive trees. The average production of dry land crops amounts to about 45% of the total annual production, which indicates the low productivity of these crops. The nature of cultivation does not provide full employment to farmers and this results partly in a shift of agricultural labour force to other sectors of the economy for supplementary employment. The lower incomes of cereal and vine growers are supplemented through Government subsidies. In addition, a number of Government projects are operated aiming at a better utilization of the existing resources and at a restructuring of the present crop pattern. The scope for restructuring, however, is still limited, because, except for fodder, no other crops for dry land areas have yet passed the test of suitability. Thus, the main dry farming projects were oriented towards the encouragement of mixed farming through the utilization of local feeding stuffs to the extent that this is possible.

(i) WORLD FOOD PROGRAMME PROJECT FOR THE PROMOTION OF MIXED FARMING IN DRY LAND AREAS

This project, which was undertaken in cooperation with the World Food Programme of the U.N., started in 1967. Its aims are :

(*a*) the rehabilitation of grazing lands by fertilizer application, seeding with legumes and grasses, deferred grazing and other scientifically sound practices ;

(*b*) the introduction of legumes and other fodder crops into the traditional grain fallow systems and the utilization and conservation of these crops ; and

(*c*) the substitution of cereal grain with forage crops.

The project involves the free issue of feedgrains and low interest loans to participating farmers for the construction of stable pens, storage facilities, purchase of livestock etc. During the period 1967–1971 the W.F.P. provided about 10,000 tons of maize and 15,300 tons of barley. The Government contributed all other expenses for the implementation of the project such as personnel, handling of feedgrains, storage, office accommodation etc. as well as credits in accordance with the relevant plan of operation. After a slow start, the project continued smoothly and interest to participate constantly increased. Table 13 is indicative of the progress achieved in the implementation of the project.

Mixed Farming Project : Number of Participating Farmers, Areas Sown, Animals Benefited and Loans Issued

TABLE 13

	1967	1968	1969	1970	1971
1. Number of Participants	90	230	498	887	1,410
2. Area sown with forage crops (donums)	4,350	10,200	26,450	59,800	94,800
3. Number of animals covered by the scheme	7,200	15,400	34,200	56,450	98,620
4. Loans issued (£)	18,000	22,700	28,100	26,100	51,190

Source : Department of Agriculture.

(ii) DRY FARMING PROJECT

The aims of the dry farming project, which was launched in 1966, are the following :

(*a*) to establish the optimum land use of the Island's dry-land areas based on land potentialities under the existing climatic and socio-economic conditions ;

(*b*) to provide adequate incentives to farmers to enable them bring about the changes needed ; and

(*c*) to provide technical and financial assistance to farmers for the establishment of viable agricultural units.

Progress during the period 1966–1971 has been as follows :—

(*a*) a preliminary general survey of the physical resources of an area of 985,000 donums covering the Karpass peninsula and the Kyrenia District has been carried out to determine the physical potentialities of the area ;

(*b*) detailed soil and socio-economic surveys were completed in 40 villages of the Karpass peninsula and the Kyrenia District covering an area of about 400,000 donums ;

(*c*) detailed reports including analysis of the physical and socio-economic conditions have been prepared for 33 villages covering an area of 388,000 donums. On the basis of the results of these surveys and reports the establishment of viable holdings will be promoted during the Third Plan period.

(iii) AGRICULTURAL RESEARCH

As in the case of irrigated crops, during the Second Plan period the Agricultural Research Institute continued and expanded its research work on various aspects and problems of dry farming.

In the field of agronomy, apart from fodders no other suitable crops have as yet been found which could replace cereals on dry-land areas. Every effort is therefore being made to increase the yields and improve the quality of these crops. During the last five years a new legume crop was released (vicia desycarpa var. lana), which on average produces 17% more dry matter than vicos. In the field of horticulture, experimental work in viticulture and oenology has been given priority in view of the urgent needs of the vine and the wine industry. Recently, experiments were initiated with late flowering varieties of almonds. Finally, in the field of plant protection more effective insecticides against the cereal leaf-miner were determined. The project for the control of wild oats in cereals was completed. The results of the project are expected to assist in cases where the wild oat infestation is quite high.

(iv) MAJOR PROJECTS INVOLVING CROPS

Pasture and Fodder Improvement : The pasture and fodder improvement project was initiated in 1967 and was intended to effect improvement to communal, private and Government grazing areas. The methods of pasture improvement used are : (*a*) application of fertilizers to the natural vegetation and (*b*) reseeding with suitable forage crops. The project aims at increasing the animal-carrying capacity of grazing areas, improving the quality of the forage produced, improving the management of such areas, bringing into production poor, rocky kafkalla and areas with uneven topography, utilizing the space between dry land trees such as carobs, olives etc. The project consists of two main parts i.e. the general scheme and the specific projects. The general scheme involves the payment of subsidies to encourage improvement of grazing land. During the Second Plan period 4,793 donums were reseeded with lolium, 2,704 donums with sub-clover, 1,036 donums were top-dressed with fertilizers and various areas totalling 1,233 donums were fenced under the general scheme. The specific projects cover such activities as the purchase of forage seed not produced locally, forage seed production, demonstrational plots for the expansion of new forage varieties, pasture improvement in emergency stricken areas and purchase and maintenance of equipment. The seed is issued to farmers either free or at subsidized prices.

Project for the Promotion of Hay Making : The project for the promotion of hay making was initiated in 1966. Its objectives are (*a*) to demonstrate various methods of hay making both on a small or on a larger scale ; (*b*) to assist farmers in making their own hay by leasing Government owned equipment and by assisting them to purchase their own implements through low interest loans ; and (*c*) to demonstrate and assist farmers on the proper storing of hay by subsidizing the erection of hay sheds. The total area of forage crops cut and made into hay and of cereal straw baled with Government owned equipment leased to farmers during the period 1968–1971 amounted to 13,020 and 10,440 donums respectively.

Kafkalla Land Improvement Project : The kafkalla areas are not used for agricultural production except for rough grazing. It has been found, however, that in certain cases by blasting the kafkalla cap, it becomes possible to plant carob trees and render such land more productive. These lands could be further developed for grazing purposes by means of reseeding the strips of land between the carob tree rows and by the application of fertilizers. The kafkalla land improvement project started on a small scale during the period 1963–64 and was expanded in 1967. It has been applied on both Government and private land. In the case of private land the blasting of the rock was covered by the project. Work carried out during the Second Plan period covered 417 donums of Government and 561 donums of private land.

(v) SOIL CONSERVATION AND TREE PLANTING PROJECT

The project started in 1968 with assistance from the World Food Programme. Its purpose is to encourage soil conservation works and tree planting in hilly and semi-hilly areas where the problem of soil erosion is very acute. According to the relevant plan of operation, the World Food Programme provides various food commodities—flour, bulgar wheat, dried skimmed milk, canned meat, vegetable oil, sugar and tea which are distributed free of charge to participating farmers. The farmers contribute their labour and relevant materials required for the purpose of carrying out soil conservation and improvement works on their land so that not only per donum yields of existing cultivations may increase, but the ground is also prepared for the introduction of new crops, and the planting of high yielding trees. The Government provides cash subsidies and bears the cost of the administration of the project. The main items of work completed by 1971 under the project were : about 14 mln. sq. ft. of dry stone wall, about 6 mln. cu. ft. of masonry and concrete structures, more than 2 mln. linear ft. of earth banks, 1.1 mln. linear ft. of roads etc. The number of villages and farmers benefited amounted to 389 and 39,038 respectively.

1.3.4 Government Development Expenditures

For the implementation of the Government agricultural development programme a total amount of almost £5 mln. was spent out of the Development Budget during the Second Plan period. Details are given in Table 14.

Development Expenditures for Agriculture, 1967-1971
(£000's)

TABLE 14

	Planned	Realized
A. Plant Production	**5,050.0**	**4,975.1**
1. Land Use Improvement (including Soil Conservation, Land Reclamation and Drainage, Soil Surveys)	890.0	744.3(1)
2. Mixed Farming (including Pasture, Fodder and Forage Development, Hay Making, Fallow Utilization, Dry Farming, W.F.P. Mixed Farming Project)	730.0	279.2
3. Tree Planting and Improvement Projects (including Vine Replanting Project, Vines, Almonds, Carobs, Olives, Pistachios, Deciduous Fruit Trees, Citrus, Bananas)	200.0	174.8
4. Vegetables and Crops (including Encouragement of Vegetables and Flowers, Tobacco Growing, Seed Production, etc.)	1,180.0	1,253.3
5. Plant Protection	200.0	211.2
6. Government Farms, Stations and Nurseries (including Paphos Chiftliks)	250.0	311.1
7. Special Minor Projects (including Bee-keeping, Fertilizer Use Improvement, Statistics, Demonstrations, etc.)	60.0	72.2
8. Agricultural Credit and Contingencies	1,000.0	1,389.1
9. Other (including Administration, Technical Assistance to Farmers, Machinery, etc.)	540.0	539.9
B. Agricultural Research (including Administration, Experiments and Investigations, Improvement and Maintenance of Farms, Stations and Nurseries and Other Miscellaneous Expenditure)	**750.0**	**866.6**
Total	**5,800.0**	**5,841.7**

Source : Financial Reports, Ministry of Agriculture and Natural Resources, Planning Bureau.

2. Problems of Future Development

2.1 Problems concerning Irrigated Crops

Irrigated farming experienced rapid development during the last ten years. However, the future development of this dynamic sector is constrained by a number of problems, the most serious of which are related to water :—

Overpumping and exhaustion of aquifers : The most serious problem is that of overpumping of the aquifers in the Famagusta and Morphou areas. The result has been a persistent drop of groundwater levels, the drying up of wells and sea water intrusion. The problem is more acute in the Famagusta area where around 50 mln. cubic meters (MCM) are pumped annually while replenishment is only 25 MCM. A similar situation is gradually developing in the Morphou area. Due to the local hydrological conditions, once fresh groundwater has been replaced by sea water, the aquifers affected are lost for ever.

Irrigation methods : In many parts of the Island inefficient irrigation methods are still being practised. This results in losses of up to 40 to 60% of water reaching the fields.

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(1) Includes expenditures on Land Consolidation.

High cost of dams : Due to infrequent rainfall, irregular run-off, heavy sediment load, steep riverbeds and poor geological conditions both on the dam sites and in the reservoirs, the water in existing and future dams is and will continue to be a very expensive commodity.

Lack of suitable land adjacent to dams : Another cost raising factor is that the soil in the neighbourhood of many rivers is poor. This has the effect of either reducing the benefits from new dams or necessitating extra costs for land development or for the conveyance of water over long distances to more suitable land.

Additional area to be irrigated : During the First and the Second Plan the irrigated area was increased by 54,000 donums and 34,000 donums respectively. During the Third Plan period it is estimated that it will be possible to bring under irrigation only 20,000 donums of additional land.

Size of holdings and labour cost : Alongside large farms or plantations there are many irrigated farms which are small and fragmented. This raises costs and impedes mechanization. At harvest time there may be a shortage of hands for such operations as, for example, the picking of citrus, potatoes and carrots. But because irrigated farming is highly productive, running of small and even very small units when combined with work outside the farm can provide a comfortable income.

Losses from diseases and other unavoidable causes : Irrigated farming is also affected from losses arising from bad weather conditions (hail, frost) and from insects, viruses, fungi, nematodes and weeds.

Marketing : Finally, irrigated farming may soon have to face the problem of marketing prospects becoming less favourable for certain products, both internally and abroad. Internally, the saturation point is coming nearer for certain products, e.g. deciduous fruits and bananas, the production of which is expanding at a fast pace. Although there are no serious domestic marketing problems with regard to citrus and those of potatoes and carrots are taken care of by the existing Marketing Boards, the question of perishables needs to be looked into. As far as the foreign market is concerned, international competition is becoming more severe, especially for oranges, potatoes and carrots. It is therefore essential, especially following the U.K. entry into the E.E.C. and our association with the Community, that the competitiveness of our exports should be enhanced both from the point of view of quality and price. With regard to early vegetables, two problems require particular attention, the promotion of a substantial dependable supply and regular air transportation.

So far, irrigated farming has given sufficient proof of its ability to overcome its problems. It may, therefore, be assumed that now that some of these problems are becoming more acute irrigated farming will be affected only to a limited extent. On the other hand, if no timely solution can be found to the problem of overpumping, a calamity will have to be expected in Famagusta area and thereafter in the Morphou area. If this should happen, part of the spectacular performance of the irrigated sector will not have been attained on a sustainable basis.

2.2 Problems related to Dry Land Crops

Compared to irrigated farming, dry farming is handicapped in two major respects. On the supply side, limited, infrequent rainfall is a decisive factor in keeping yields low. Instead of high yielding crops such as oranges, lemons and grapefruit only low yielding crops such as wheat, barley and vines can be produced on dry-land areas. To a certain extent, this handicap might be overcome by having sufficiently large farms which would combine cereal growing with livestock rearing. However, many farms are too small at present. On the demand side, the prevailing market prices for such important dry farmed products as wheat, barley, and vines are such that the Government has to intervene with income support subsidies.

Apart from these two drawbacks, there are other problems :—

Soil and Soil Erosion : Alongside rainfed farms with good soil, there are other farms with fair or poor soil. Coupled with this is the problem of soil erosion which through the years has worked to render unsuitable for agriculture one million donums of land.

Land Fragmentation, Fallow Land, Land Tenure and Labour : Farms are not only often small but also fragmented. Also an estimated 800,000–900,000 donums of cultivated land is left fallow each year. Cultivation of crops and animal husbandry activities are not usually combined. Tenancy is preponderantly for one or two years. In certain areas during part of the year farmers may be underemployed, and there may be a seasonal shortage of hands in other areas.

Losses due to plant diseases and other unavoidable causes : As in the case of irrigated farming, dry farming is also affected from damage inflicted by insects, viruses, fungi, nematodes and weeds. Heavy damage may also be caused by drought, hail and other natural calamities.

Marketing : Although the Government subsidization schemes may have solved for the producer the marketing problems for certain crops, marketing difficulties in the case of certain other crops may affect in future the prospects of dry farming.

Despite the problems analysed above which affect the future development of both irrigated and dry farmed crops, the prospects for the Third Plan should be promising, the more so if concerted action is taken by both Government and farmers.

3. Objectives of the Third Plan and Means for their Attainment

Briefly, the main objectives of the Third Plan relating to plant production and the means for their attainment are :—

(*a*) *Soil and Water Conservation :* Conservation of soil and water are essential in order to ensure that the level of agricultural activities is maintained and expanded. The means for achieving this fundamental long-term objective are soil conservation works, improved water use, adequate pumping control, construction of irrigation works and pollution control.

(*b*) *Improved Economic Performance of Farms :* Basically, this objective will have to be pursued through an orientation of production towards the most advantageous combinations of prevailing and expected supply and demand conditions.

The most effective means for increasing the economic performance of farms is the supply of additional quantities of water for irrigation and a restructuring of crops from low yielding dry farmed crops towards high yielding irrigated crops. However, the scope for increasing the supply of irrigation water is, unfortunately, limited.

Another means for attaining this objective is land consolidation or integrated land consolidation which includes improvement of irrigation, drainage and road systems, soil conservation and other land development works. However, land consolidation and integrated land consolidation in particular are very expensive processes and take time.

Hence, the most suitable means for improving the economic performance of farms in the near future appears to be the establishment of more viable holdings, the introduction of better varieties of crops, extended and better utilization of fertilizers, adequate plant protection, rational farm mechanization, promotion of mixed farming, improvement of tenurial conditions, encouragement of vine replanting, encouragement of barley and durum wheat at the expense of soft wheat production etc.

(*c*) *Marketing :* As mentioned earlier, most of the problems of marketing at home have been taken care of, but there is still some scope for rationalizing the system of collection and distribution of perishables through, perhaps, the encouragement of cooperative marketing.

The means for tackling the problem of increasing international competition will include efforts to orient exports to the needs of the new situation arising from our association with the European Common Market, to step up the efforts for securing new markets, to improve post harvest handling of agricultural export produce, market analysis, planning of shipments, sales promotion, publicity etc.

(*d*) *Rationalization of the Subsidy Policy :* More emphasis will be placed on subsidies and other incentives which are designed to encourage changes in the cropping pattern, and which increase productivity and the efficiency of factors of production.

(*e*) *Protection against unavoidable losses caused by natural hazards :* The aim is to replace the Drought Relief Fund and the Agricultural Provident Fund by a more comprehensive system of crop insurance.

4. Targets and Prospects during the Third Plan Period

4.1 Gross Output

During the Third Plan, the increase of plant production, although satisfactory, is not expected to reach the high rates realized during the Second Plan. It is anticipated that total plant production will increase by 6.4% per annum as against 8.3% realized during the Second Plan period. Details of the anticipated developments in the production of various plants are given in Table 15.

Irrigated tree crops will again be the leading group in attaining the Plan target ; their output is estimated to increase by 12.4% per annum compared to 15.8% realized during the previous five-year period. Citrus, which will be the main contributor to this growth, are expected to grow by 12.5% and deciduous fruit trees (including bananas) by 12.3%. In estimating these rates, young plantations which will reach the age of fruit production as well as maturing trees have been taken into account. About 16,000 donums of citrus are estimated to reach the age of fruit production. Furthermore, over the five-year period an annual increase is expected in yields by about 9.7% in the case of citrus and 10.8% in the case of deciduous trees.

The production of irrigated field and other non-tree crops is expected to increase by 5.6% per annum as against 6.7% realized during the Second Plan period. It has been assumed that of the total of 20,000 donums, which may come under irrigation, 10,000 donums will be used for the cultivation of early vegetables and green fodder ; thus, the value of production of these items is expected to grow by 7.7% and 13.4% per annum respectively. Although a slight decrease has been assumed in the area cultivated with potatoes, the value of production is expected to increase by about 3.2% per annum due to higher yields.

Trees and vines are expected to increase their production by an annual rate of 4.3% as against 0.8% during the Second Plan. This relatively high rate is attributed to the fact that 1976 was assumed to be a normal crop year for these products, while the base year 1971 was a poor year mainly for olives and carobs. Vines are expected to increase production by 2.7% annually, i.e. at a lower rate than during the Second Plan (5.4%).

Non-irrigated field and other non-tree crops are expected to show only a small annual increase (0.7%) because of assumed weather conditions in 1976. Thus, the production of wheat is estimated to remain at the 1971 level, i.e. at 95,000 tons and that of barley at 100,000 tons as against 110,000 tons in 1971. With regard to other dry farmed field crops, legumes and fodder crops are expected to increase their production by 6.1% and 6.3% per annum respectively, while the production of industrial crops is expected to decline by about 1.5% per annum due to a decrease in the area cultivated with these crops (cotton, sesame, cumin and aniseed).

Production by Broad Category of Crops, 1966, 1971 and 1976

TABLE 15

	Value of Output at Constant 1970 Prices (£mln.)			Annual Rate of Growth (%)	
	1966	1971	1976	1967–71	1972–76
A. Irrigated Crops	**12.6**	**20.9**	**32.5**	**10.7**	**9.2**
1. Field and Other Non-Tree Crops	7.6	10.5	13.8	6.7	5.6
2. Tree Crops (Irrigated)	5.0	10.4	18.7	15.8	12.4
B. Dry-Land Crops	**12.7**	**16.8**	**18.9**	**5.8**	**2.4**
1. Field and Other Non-Tree Crops	5.3	9.1	9.4	11.4	0.7
2. Trees and Vines	7.4	7.7	9.5	0.8	4.3
Total All Crops (A + B) (1)	**25.3**	**37.7**	**51.4**	**8.3**	**6.4**

Source : Planning Bureau, Department of Statistics and Research.

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(1) Does not include various green salad products and firewood estimated between £0.2–£0.3 mln. as well as vine subsidies per donum estimated at £0.3 mln. for 1971 and £0.5 mln. for 1976.

4.2 Exports

Plant production exports are expected to increase by 71.2% as against 102.2% realized during the Second Plan period. This increase is not expected to be uniform throughout the five-year period. The key products in securing the above expansion will be citrus, potatoes, table grapes, wines, spirits and carobs.

Citrus : The value of exports of citrus and citrus juices and segments is expected to grow from £13.8 mln. in 1971 to £28.3 mln. in 1976. In this connection the increased production from existing young plantations, as well as the trends in the world trade and the new opening to be provided for citrus by the association agreement with the E.E.C. were taken into account.

Potatoes : It is expected that water shortage and possibly marketing problems will impose limitations on the area cultivated with potatoes.

Grapes and Other Vine Products : It is estimated that the export value of fresh grapes, raisins, wines and spirits and grape must will increase from £5.8 mln. in 1971 to £8.9 mln. in 1976. This expansion will result from the increase in the value of table grapes, while the value of grape must and eau-de-vie-de-vin is expected to remain at the 1971 level. The successful disposal abroad of wines and especially sherries, will to a large extent depend on the future arrangements to be made for these products in the association agreement with the E.E.C.

Carobs : The export value of kibbled carobs and carob products is expected to increase from £1.1 mln. in 1971 to £1.3 mln. in 1976.

Carrots : The quantity of carrots exported is expected to decrease further during the Third Plan period, due to the fact that the area cultivated with carrots will continue contracting in favour of other more remunerative crops and because of increasing difficulties in the export market. The export value of carrots in 1976 is expected to remain at the 1971 level, i.e. £0.5 mln.

Early Vegetables : Emphasis will continue to be given on the production and export of early vegetables. This category includes special varieties of such crops as melons, peppers, aubergines, asparagus, etc. Their export value in 1971 amounted to £0.7 mln. The export value of this category may double by 1976.

Miscellaneous : Exports of other products are expected to remain at the 1971 level.

4.3 Means for Attaining the Plan Targets and Objectives

4.3.1 General Means

(i) RESTRUCTURING OF CROPS

The aim of the crop restructuring effort will continue to be the encouragement of (*a*) high value unit crops, (*b*) export crops or crops which replace imports, (*c*) crops which conserve natural resources and (*d*) crops which can improve the nutritional standards of the people.

In this connection the shift in favour of irrigated crops will continue ; these are expected to increase by 55.5% as against an increase of 12.5% of dry land crops, while their share in total value of plant production will increase from 55.4% in 1971 to 63.2% in 1976. These developments, which are expected in spite of the fact that the area to be irrigated will increase by only 20,000 donums as against 34,000 during the Second Plan, should be mainly attributed to the improvement of yields. With regard to citrus, which is the most dynamic group from the point of view of its contribution to plant production, there is scope for further expansion and improvement in yields through the introduction of new rootstocks and nucellar varieties. Substantially virus free mother plants will also be established in the case of deciduous fruit trees. Improved varieties of apples, pears, peaches, cherries and apricots will be produced. It is likely that the improved varieties of cherries and apricots will be exportable.

Irrigated field crops are expected to increase despite the limited availability of water. The production of early vegetables and flowers will continue to be encouraged through the subsidization of the cost of erection of greenhouses.

The value of production of dry-land field crops is expected to show a slight increase. The new wheat variety, Pitic 62, will increase yields per donum. As Pitic 62 is soft grained, it will, in due course, have to be replaced by another variety having a better grain quality.

Trees and vines will be one of the most dynamic group during the Third Plan period. The anticipated increased rate of expansion is attributed to satisfactory carob and olive harvests and to the effects of the carob, olive and almond tree planting projects, as well as to new table grape plantations which will reach the production stage.

(ii) RESTRUCTURING OF LAND USE

Total cultivated land is expected to increase by 5.1% during the Third Plan period. The percentage share of irrigated land will be maintained at about 12% (Table 16).

Cultivated Area by Main Category of Crops, 1966, 1971 and 1976

TABLE 16

(000's *Donums*)

	1966	1971	1976	Change (%) 1966–71	Change (%) 1971–76
A. Irrigated Crops	**268**	**302**	**322**	**12.7**	**6.6**
1. Field and Other Non-Tree Crops	136	143	153	5.2	7.0
2. Tree Crops	132	159	169	20.5	6.3
B. Dry-Land Crops	**2,161**	**2,260**	**2,370**	**4.6**	**4.9**
1. Field and Other Non-Tree Crops	1,376	1,413	1,460	2.7	3.3
2. Tree Crops (incl. Vines)	785	847	910	7.9	7.4
C. Total All Crops	**2,429**	**2,562**	**2,692**	**5.5**	**5.1**
1. Field and Other Non-Tree Crops	1,512	1,556	1,613	2.9	3.7
2. Tree Crops (incl. Vines)	917	1,006	1,079	9.7	7.3

Source : Compiled by the Planning Bureau on the basis of data provided by the Department of Statistics and Research and the Department of Agriculture.

The area cultivated with carrots and potatoes is expected to decrease further during the Third Plan period ; it has been estimated that 10,000 donums will be added during this period to the area cultivated by early vetegables and fodder crops. On the other hand, the area covered by irrigated trees (mainly citrus and deciduous), which increased by 27,000 donums during the Second Plan period, is expected to increase by only 10,000 donums during the period 1972–76. The expected increase in the irrigable area during the Third Plan period will mainly be the result of the completion of new Government irrigation schemes and their distribution systems.

With regard to dry land areas, an increase of 4.9% is expected during the Plan period mainly as a result of the expansion of the cultivation of almond trees and field crops (legumes and fodder crops). In this respect, a worthwhile contribution will be made by certain projects which will be initiated by Government such as the project for the establishment of viable units, which will increase the area under fodder crops, the almond tree planting project in Pitsilia area and the vine replanting project.

(iii) IMPROVING PER DONUM YIELDS

The yields per donum are estimated to increase by 5.4% annually during the period of the Third Plan (Table 17).

Irrigated crops will experience the fastest growth, i.e. 7.8% annually, which is expected to result in yields twelve and a half times higher than those of dry-land crops. Both irrigated field and tree crops will experience an increase in yields due to improved methods of cultivation, better use of inputs and improved varieties mainly for citrus and deciduous fruit trees. The yields of dry-land field and other non-tree crops are expected to remain constant, while the per donum yields of dry-land trees and vines are expected to increase by 2.7% annually with olive trees, carob trees and vines being the main contributors.

TABLE 17 **Output per Donum, 1966, 1971 and 1976**

	Value of Output at 1970 Constant Prices (£)			Annual Rate of Growth (%)	
	1966	1971	1976	1967–71	1972–76
A. Irrigated Crops	**47.0**	**69.2**	**100.9**	**8.0**	**7.8**
1. Field and Other Non-Tree Crops	55.9	73.4	90.2	5.6	4.2
2. Tree Crops	37.9	65.4	110.7	11.5	11.1
B. Dry-Land Crops	**5.9**	**7.4**	**8.0**	**4.6**	**1.6**
1. Field and Other Non-Tree Crops	3.9	6.4	6.4	10.4	—
2. Trees and Vines	9.4	9.1	10.4	—0.6	2.7
Total All Crops	**10.4**	**14.7**	**19.1**	**7.2**	**5.4**

Source : Compiled by the Planning Bureau on the basis of data provided by the Department of Statistics and Research.

(iv) RATIONALIZATION OF SUBSIDIES

Subsidies will continue to be used as an instrument : (*a*) for changing cropping patterns and for raising productivity through various projects designed to promote a more efficient utilization of the factors of production, (*b*) for protecting farmers from unavoidable natural hazards and (*c*) for raising the incomes of farmers to levels commensurate with the objectives of economic and social development.

The present system of subsidization of cereals in itself is not sufficient to promote radical changes in cropping patterns in the Messaoria plain. The main alternative crops to wheat and barley are various other types of fodder crops, the cultivation of which will be encouraged through projects concerned with the promotion of animal husbandry and the establishment of viable holdings and having regard to the potentialities determined by the specific agroclimatic conditions of such area.

As in the case of cereal subsidies the present system of subsidization of vine products also is not conducive to structural changes in the pattern of cultivation. However, the encouragement of other crops in many vine producing areas may be difficult or not feasible under the prevailing agroclimatic conditions. The alternative therefore is to introduce new high yielding varieties producing better quality wine with a better export potential in order to raise in due course the profitability of vine growing activities. The introduction of new varieties constitutes the main objective of the vine replanting project. This project provides for the gradual uprooting of the existing old vineyards, which cover an area of about 110,000 donums, and the replacement of the common grape varieties with new high yielding ones.

(v) IMPROVING CROP INSURANCE ARRANGEMENTS

During the Third Plan period, the Agricultural Provident Fund and the Drought Relief Fund will be replaced by a more comprehensive crop insurance scheme. The details of the scheme are being worked out and appropriate legislation is being drafted. The main objective of the legislation will be to promote stability in agriculture by compensating farmers for losses incurred from unavoidable natural causes. The scheme will be compulsory and will gradually cover more agricultural products and more types of calamities.

(vi) INCREASING SEED PRODUCTION

The activities of the Seed Production Centre and those of the Cereal Seed Farm at Ayia Erini will continue and expand during the Third Plan. It is estimated that the quantities of certified wheat and barley seed will increase from 5,500 tons in 1971 to 8,000 tons in 1976.

(vii) INCREASING THE USE OF FERTILIZERS

The Fertilizer Use Improvement Programme will continue during the Third Plan period as there is scope for improvements in attaining the optimum use of fertilizers. Firstly, for certain crops there is an underconsumption of nitrogenous and phosphatic fertilizers. Secondly, the application of certain other nutrient elements, such as iron, manganese, zinc, boron, magnesium, copper, etc. should be extended because there is increasing evidence that they are becoming deficient. A more balanced programme of fertilizer application will thus be established which will result in increased productivity, better crop quality and a consequential reduction of production costs.

(viii) CONTINUATION OF SOIL SURVEYS

The two types of soil surveys, described earlier, will be continued during the coming five years. The basic soil surveys on soil classification, which have already covered two thirds of the total cultivated land, will be continued to cover eventually the whole cultivated area of the Island. An exercise on the correlation of soil properties and plant growth will be carried out to enable the development of a rational and economic land utilization system, providing, *inter alia*, information on soil fertility problems. The specific surveys on land suitability will cover the main watershed areas such as Limassol–Akrotiri, Morphou–Tylliria, Larnaca as well as those connected with the Paphos irrigation project.

(ix) PLANT PROTECTION ACTIVITIES

Plant Protection Programme

The plant protection programme, which started in 1965, will be continued during the Third Plan period and will include the following :—

(*a*) *Educational Campaigns and Demonstrations :* This component of the programme provides for systematic demonstrational, training and publicity campaigns aiming at enlightening the farmers on the proper use of pesticides, correct dosages, the use of suitable equipment and the correct methods and time of pesticide applications.

(*b*) *General Ordinary Control Campaigns :* The underlying reason for these campaigns is that the danger from various pests is not confined to one crop and joint action by all producers is therefore necessary. The campaigns which will be undertaken during the period 1972-1976 will include the control of hornets and bats, the control of rats, sparrows, the almond wasp, stink bug, etc.

(*c*) *Integrated Pest Control :* This is an expansion and continuation of the project on biological control of potato tuber moth, which was initiated in 1966 and includes all possible control measures, chemical, biological, cultural, etc. Studies will be carried out on the possibilities of alternate and cheap storage methods for potatoes such as cold storage below 10°C., as well as on the fumigation methods for protection of stored potatoes. With regard to the control of red spider mite, which attacks a wide variety of crops, an effective predatory mite might be imported from abroad to be reared and released in the infested areas.

(*d*) *Air Spraying :* Air spraying will be used, whenever possible, to control the olive fly, mediterranean fruit fly, downy mildew of vines, leaf miner of cereals and gypsy moth on forest and fruit trees. During the Third Plan period it is envisaged that plant protection associations will be established in various parts of the Island consisting of interested farmers to undertake responsibility for plant protection against certain pests and diseases.

Eradication of the Mediterranean Fruit Fly

The Mediterranean fruit fly has inhabited Cyprus for centuries and inflicts serious damage to citrus, peaches, plums, apricots, figs, pomegranates, as well as to many other cultivated and wild hosts. The eradication of the medfly will improve the quality and competitiveness of the products affected by the insect the more so since the main foreign markets for Cyprus products have strict regulations concerning medfly.

The Government has already started experiments on the eradication of this fly through the release of sterile male insects and a laboratory has been constructed which is fully equipped to rear and sterilize medflies. Marked sterile flies will be eventually released.in selected areas to estimate density of wild medfly population. According to the results to be obtained, the Government will consider whether to embark on an expanded project of eradication to cover the whole of the Island.

4.3.2 Specific Projects, Programmes and Measures with regard to Irrigated Farming

(i) WATER USE IMPROVEMENT

The general aim of the water use policy will continue to be the application of improved on-farm systems. For more details concerning this project reference is invited to Chapter 10.

(ii) SALINE IRRIGATION WATER UTILIZATION

The saline irrigation project, which is designed to encourage farmers through the provision of subsidies and loans, to develop their lands and water for the production of lucerne and fodder beets using improved cultural practices, will continue on the same lines during the Third Plan. The area to be covered during the Plan period is estimated at 670 donums.

(iii) WATER CONTROL

Water control measures are intended to strike a balance between the extraction of groundwater and its replenishment especially in critical areas such as the Western and Eastern Messaoria and the Akrotiri-Fassouri regions. During the period of the Third Plan, efforts will be made towards a more effective implementation of the Water Supply (Special Measures) Law.

(iv) AGRICULTURAL RESEARCH

Future activities in the area of agricultural research related to irrigated crops will include the continuation of current research work and the initiation of new investigations. Continuing research work includes studies on improved thinning and pruning of deciduous fruit trees, research on vegetables, research on the most economic combinations of fertilizer materials, water, investigations on the efficiency of new fertilizers, especially the slow release nitrogenous compounds, which are less subject to leaching and fixation losses, plant protection and agricultural economics. New investigations will cover, *inter alia*, flowers, growing of bulbs in saline water areas, use of chemicals to regulate various growth phases of deciduous fruit trees, further study on the cultivation of the sub-tropical avocado fruit tree in Cyprus, improvement of farm mechanization, application of modern methods to new research projects, such as radioisotopes in studying soil fertility, plant nutrition, water use and post-harvest handling of perishable products.

(v) FRUIT CROPS

In the field of fruit crops, the continuation of existing and a number of new projects are programmed. The main projects are examined in subsequent paragraphs.

Citrus :

Use of Improved Rootstocks for Grapefruit : In terms of value of production, citrus is the most important agricultural crop. Its percentage share in total plant production increased from 14.6% in 1966 to 22.9% in 1971. In spite of this development, there are a number of problems to be overcome. One of these problems concerns the infection in many cases of citrus trees, mainly orange and grapefruit trees, with one or more virus diseases resulting in reduced yields, especially of commercial fruit. The only rootstock used so far in Cyprus is the sour orange which is susceptible to the Tristeza virus. It has been established that two rootstocks, which were introduced during the past, i.e. the rough lemon and Cleopatra mandarin, when budded with grapefruit give 60% and 40% respectively more fruit than when grapefruit is budded on sour orange. Rough lemon is suitable for light soils and Cleopatra mandarin for heavier soils. Moreover, these are resistent to the Tristeza virus.

The project for the use of improved rootstocks for grapefruit entails the establishment of demonstration plots in the main citrus growing areas to demonstrate the benefits of the new rootstocks when budded with grapefruit.

The Budwood Registration Programme : The budwood registration programme started in 1970. Under this programme, an area at the Akhelia Chiftlik was planted with sour orange rootstocks which have been budded with virus free and true-to-type varieties of citrus. These will serve as mother plants from which budwood will be taken to bud seedlings issued to citrus growers.

Deciduous Fruit Trees

Establishment of deciduous virus free mother plants and promotion of varieties of deciduous fruit trees suitable for canning : The cultivation of deciduous fruit trees increased considerably in the last few years, especially after the introduction of improved varieties suitable for mountainous as well as lowland areas. A crucial problem here is the infection in many cases of deciduous fruit trees with virus diseases. In such cases, the fruit is not of the best quality and the yields are relatively low. The trees are also unsuitable for obtaining budwood because the disease will be transferred to budded trees. In addition, the majority of the existing varieties of deciduous trees produce fruit which cannot be stored for any length of time and is not suitable for either canning or export. As a result, producer prices are usually low especially in years of good production.

Recently, a number of new varieties of peaches and pears have been introduced and are under trial. These varieties are also suitable for canning. The cultivation of such varieties will to a certain extent alleviate the marketing problem, because there will be alternative channels for disposal. If improved varieties are introduced, there is also the possibility of exporting small quantities of apricots and cherries.

The project for the establishment of deciduous virus free mother plants aims at providing growers with budded seedlings substantially virus free and true-to-type, introducing virus free varieties selected either for their suitability to canning or earliness and for their export potentialities and establishing plots at appropriate areas to demonstrate the improved qualities and yields of the virus free stocks.

Encouragement of the Cultivation of Pecan-nuts

Pecan trees can be planted in river-beds and river-banks, where there is sufficient moisture in the soil. The fruit of this tree is valued for its nutrient quality and fetches good prices in world markets.

The pecan-tree project aims at encouraging the planting of pecan trees in areas with limited irrigation water, which cannot be utilized for growing other fruit. Trial plantations will be established in certain areas of Messaoria with a high watertable ; in addition, motherplants budded with suitable varieties will be planted at the Government nurseries of Morphou and Akhelia, from which budwood will be taken. Budded pecan trees will be provided to farmers at subsidized prices.

Establishment of Avocado Demonstration Plots

Avocado is a new crop which is considered to be in most cases as an alternative to citrus. In the Mediterranean region it is grown on a large scale only in Israel, and is exported to Europe where it fetches high prices. Thus, it is expected that the promotion of avocados will result in a diversification of irrigated tree crops.

In 1971, 10 donums of avocado were planted at Kouklia Chiftliks. The avocado demonstration project aims at establishing plots in areas suitable for avocado growing (Paphos, Morphou and Limassol). These plots will be planted with avocado varieties already introduced to familiarise interested growers with the cultivation requirements of the plants, planting distances, picking, packing and marketing of the fruit.

Project for the Expansion of Pistachio Nut Cultivation

The project for the expansion of pistachio nut cultivation started in 1967 with a view to demonstrating the performance of pistachio nuts under the various microclimatic conditions of the Island and to teach growers the cultural practices of pistachio growing and producing suitable budwood locally, both for nursery propagation and issue to interested growers for budding. During the years of the operation of the project a number of budded nursery trees was produced at Morphou nursery and issued to interested growers.

During the Third Plan period the project envisages the maintenance of existing mother plants at the eleven demonstrational sites, the nursery production of budded stock and its issue to interested growers and the importation of budwood from abroad.

(vi) VEGETABLES

The climatic conditions of Cyprus render the cultivation of vegetables a promising proposition. In order to ensure continuity and a steady flow of supply to the foreign market this industry should be further developed through the production of vegetables under controlled environmental conditions, in hot houses as well as in tunnels and by improving the existing marketing arrangements.

Three relevant projects will be operated during the Third Plan period, as follows :—

(*a*) *The Akhelia Vegetable Demonstration Farm Project :* This project was established in 1969 and is of a demonstrational nature ; it is designed in such a way as to use both hot houses and tunnels. The activities of the farm during the period 1972–1976 will cover the cultivation for demonstration purposes of a variety of early vegetables and flowers, such as : squashes, beans, melons, watermelons, aubergines, peppers, strawberries, gladioli and spray carnations.

(*b*) *Project on Ordinary Vegetables, Asparagus, Potatoes and Flowers :* This project, which started in 1965, is designed to promote the production of vegetables of improved varieties, under glass, for sale to growers in non-coastal areas, the production of flowers and ornamentals for sale to interested growers, the demonstration to growers of new potato varieties, white and yellow fleshed, and the production of asparagus seedlings for sale to growers at cost price. The project operates satisfactorily and will continue during the Third Plan period as new promising varieties appear.

(*c*) *Encouragement of Early Vegetable Production and Marketing :* The project aims at encouraging the production of early vegetables through incentives, technical advice and demonstrations. The project will continue during the Third Plan period.

(vii) MARKETING

Domestic Marketing : The question of marketing, both internal and external, presents certain organizational problems. For a number of products, the establishment of marketing boards has ameliorated the problem. To the existing Marketing Boards for Potatoes and Carrots, the Vine Products Commission and the Grain Commission, two new organizations were added during the Second Plan period, i.e. the Olive Products Marketing Board and the Cyprus Milk Industry Organization.

Vegetables and deciduous fruits, present certain difficulties. In the case of vegetables, the existence of many stages in the distribution process often results in high margins between farm gate prices and consumer prices, and there are also problems related to storage and effective grading. With regard to deciduous fruits, the fact that in many cases existing varieties cannot be stored or used by the canning industry or exported, results in excess supply with adverse effects on price. Further development of sales cooperatives in the case of vegetables and the introduction of new varieties suitable for canning and export in the case of deciduous fruits might facilitate a solution of the problems.

Export Prospects for Main Agricultural Products : Given that the existing preferential tariff system in the U.K. market will be maintained during the period of the Plan, it is anticipated that no major problems will arise in connection with the disposal of Cyprus agricultural exports to that country. The only problems that are still pending are related to sherries and potatoes. The question, however, is how far Cyprus agricultural products will be able to successfully penetrate the other E.E.C. markets, given that the only tariff concessions to be expected are those on citrus and carobs. A short assessment of the export possibilities of the main products in the E.E.C. market is given below :

(*a*) *Oranges :* Having regard to the c.i.f. prices obtaining in European ports, the competitiveness of Cyprus oranges appears to be satisfactory. The envisaged reduction in the common external tariff of the E.E.C. by 40% will assist in maintaining and enhancing the competitive position of this product. On the other hand, because of over-production in citrus producing countries, the international price level for oranges is expected to be slightly reduced during the period of the Plan.

(*b*) *Grapefruit :* Cyprus grapefruit enjoys a satisfactory position in the European Market from the point of view both of quality and price. As in the case of oranges, the general price level for grapefruit may decrease slightly during the period of the Plan.

(*c*) *Lemons :* A diversification of exports was effected during the last few years through a shift towards the Common Market, especially towards France. This should be mainly attributed to the superior quality of the Cyprus lemons. F.A.O. expects world exports to fall short of demand during the period up to 1975 with a possibility of an increase in the price level.

(*d*) *Potatoes :* For Cyprus potatoes, the main market has been the United Kingdom. This should be attributed to the quality of the product which meets the taste of the British consumer, as well as to the Commonwealth preferential system. On the assumption that a satisfactory quota in the U.K. market will be secured, no serious disposal problem is likely to be encountered.

As regards exports to other E.E.C. countries, the main importing countries have been the Federal Republic of Germany and France. There appear to be prospects for exports to the former market provided that potatoes will be of the yellow flesh type. However, given that this market is less remunerative than the U.K. market, exporters may have to accept slightly lower prices.

(*e*) *Carrots :* Presently, almost the total quantity of Cyprus carrots exported is absorbed by the U.K. The six Common Market countries have annual imports of 50,000–55,000 tons, which take place about the same time as Cyprus exports. To secure an entry of the Cyprus carrots into the E.E.C. market a reduction in the present price level may be necessary so that the competitiveness of Cyprus carrots *vis-a-vis* italian and dutch carrots may be increased.

(*f*) *Table Grapes :* The U.K. is the main market for Cyprus table grapes absorbing 80–85% of exports. Given that the preferential tariff for table grapes will be maintained during the Plan period, no major problems are expected in the disposal of table grapes to the U.K. market. Presently, the W. German market, which is the largest world market for table grapes, is less remunerative than that of the U.K. To avoid a possible reduction in the price level, emphasis should continue to be given on early production.

4.3.3 Specific Projects, Programmes and Measures related to Dry Farming

(i) WORLD FOOD PROGRAMME PROJECT FOR THE PROMOTION OF MIXED FARMING IN DRY-LAND AREAS

Originally, the project was of a five-year duration (1967–1971) and covered the Kyrenia District and the Karpass peninsula. Following a request by the Government to the W.F.P., the project was enlarged and extended in 1970 for another five years (1970–1974) to cover the whole northern part of the Island, the drier areas of the Messaoria plain and other areas.

According to the expanded project, the W.F.P. will provide 54,600 tons of maize. The project is intended to benefit 360 farmers in the first year, 960 farmers in the second year and an average of 2,160 farmers in each of the third, fourth and fifth years of its operation.

During the period of the Third Plan the extension of mixed farming to cover more areas either through the expansion of the existing project or the introduction of new one will be examined.

(ii) DRY FARMING PROJECT

As mentioned earlier, under the dry farming project surveys were conducted on the physical potentialities and socio-economic conditions of a number of villages in the Karpass peninsula and the Kyrenia District. On the basis of these surveys and reports the establishment of viable agricultural units, which is one of the objectives of the dry farming project, will be encouraged. The project for the establishment of such units will be a comprehensive scheme, which may incorporate a number of other specific projects such as the fallow land utilization project, the pasture development project, etc.

The establishment of viable agricultural units with mixed farming will be promoted through incentives, credits and technical assistance so as to encourage farmers to expand their holdings through purchase or lease of land, to purchase improved animal breeds, to improve and erect animal sheds, to purchase agricultural machinery and implements, to carry out fencing, soil conservation works and tree planting.

(iii) SOIL CONSERVATION AND TREE PLANTING PROJECT

As mentioned earlier, the soil conservation and tree planting project was initiated in 1968 with the co-operation of the World Food Programme. The project will come to an end in 1973, but it is expected to be renewed for at least another two years. The criteria to be followed for the implementation of the project during the Third Plan will not differ from those applied so far. As in the past, villages will be selected in areas where soil conservation works are urgently needed, farmers have very low incomes, underemployment is widespread and intensification of agricultural activities by land development and tree planting is essential for rendering the holdings viable. One of the highlights of the project during the Plan period will be the promotion of soil conservation works in connection with the replanting of vines.

(iv) MAJOR PROJECTS ON CROPS

Pasture and Fodder Improvement : The scope for pasture improvement is considerable as there is an area of over 720,000 donums of grazing land, which is deteriorating as a result of uncontrolled grazing. Furthermore, there are large areas of cultivated land which are mostly cropped with cereals in a cereal/fallow rotation. The pasture and fodder improvement project aims at improving the communal, private and Government grazing areas through application of fertilizers to the natural vegetation and through reseeding with suitable forage crops.

The general scheme will continue operating on the same lines as before and it is estimated that 59,000 donums will be covered under its various fields of activity, i.e. reseeding with lolium and sub-clover, top dressing with fertilizers and fencing.

The specific projects cover activities connected with the purchase and production of seed, the operation of demonstrational plots for the expansion of new forage varieties, etc. These activities will also continue during the Third Plan period.

Project for the Promotion of Hay Making : The project for the promotion of hay making which started in 1966 will continue during the Third Plan period. It is estimated that 34,400 donums of hay will be cut by Government machinery leased to farmers.

Kafkalla Land Improvement Project : During the Third Plan period the activities of the Kafkalla land improvement project will be limited to the maintenance of the young carob trees already planted on Government lands and to pasture improvement work on the strips of land between the rows of carob trees on the same sites.

Encouragement of Almond-Tree Planting in the Pitsilia Area : This project envisages the planting in the Pitsilia area of 50,000 almond trees during the Third Plan period. The seed will be provided free of charge after it has been pregerminated in the cold stores of the Government nurseries. At the appropriate time the young seedlings will be budded ; for each successfully budded almond tree the growers will receive a bonus. The implementation of the project will result in the profitable utilization of poor land, difficult to develop and in many cases unsuitable for other cultivation.

(v) AGRICULTURAL RESEARCH

The activities of agricultural research on dry-land crops during the Third Plan period will embrace both the continuation of current research work and the initiation of new investigations. Research work will continue on new high yielding varieties of wheat and barley, management of fodder crops (optimum cutting stages of new varieties, optimum population structure, mechanization, etc.), agricultural economics (farm management), etc. New fields of investigations will be experiments on table olive varieties with export potential, improvement of farm mechanization and application of modern methods on new research projects, such as irradiation induced mutants in plant breeding and modern instruments in chemical analysis.

(vi) SPECIFIC CROP POLICIES

A number of policy measures will be continued :

(*a*) *Cereals :* In view of the fact that increased emphasis will continue to be given on the development of animal husbandry, the cultivation of barley and other dry-land fodder crops will be encouraged. In addition, the cultivation of hard wheat, which is suitable for bread and macaroni making, will be promoted at the expense of soft wheat. Research work for the introduction of other crops which could replace cereals will continue, parallel to the research for new higher yielding varieties of improved quality wheat and barley.

(*b*) *Vines :* The area cultivated with vines amounts to about 340,000 donums. Out of this area about 110,000 donums are planted with old vines the yields of which are low. The income of vine growers is presently supplemented through Government subsidies on a quantity and per donum basis. The problem here is how to increase the profitability of vineyards. For this purpose the vine replanting project has been introduced.

The main objective of this project is the gradual replanting of existing old vineyards, which due to their age or unsuitable terrain produce low yields of common variety grapes.

Among the requirements of the replanting project is the setting up of a multiplication unit for propagating the new varieties, the establishment of demonstration plots, the extension of the oenology laboratory and the creation of a small model winery for testing the wine making qualities of new grape varieties.

The assistance of the World Food Programme will be requested in order to incorporate the activities of the vine replanting project into the extended Soil Conservation and Tree Planting Project. It is expected that during the period 1972–76 an area of about 15,000 donums of vines will be replanted.

The demonstration programmes will be continued. More particularly, with regard to sultana vineyards, methods will be demonstrated aiming at increasing berry size and thus rendering the product more suitable for export.

4.3.4. Government Development Expenditures

The Government agricultural development activities in the fields of plant production, agricultural research, land consolidation and meteorological services during the Third Plan period are reflected in increased allocations of development expenditures as shown in Table 18.

Development Expenditure for Agriculture, 1967–1971 and 1972–1976
(£000's)

TABLE 18

	Realized 1967-1971	Planned 1972-1976
A. Plant Production	**4,975.1**	**7,300.0**
1. Land Use Improvement (including Soil Conservation, Land Reclamation and Drainage, Soil Surveys)	744.3(1)	1,100.0
2. Mixed Farming (including Pasture, Fodder and Forage Development, Hay Making, Fallow Utilization, W.F.P. Mixed Farming Project)	279.2	490.0
3. Tree Planting and Improvement Projects (including Vine Replanting Project, Vines, Almonds, Carobs, Olives, Pistachios, Pecan-nuts, Deciduous Fruit Trees, Citrus, Avocado, Bananas)	174.8	410.0
4. Vegetables and Crops (including Encouragement of Vegetables and Flowers, Tobacco Growing, Seed Production, etc.)	1,253.3	1,710.0
5. Plant Protection	211.2	370.0
6. Government Farms Stations and Nurseries (including Paphos Chiftliks)	311.1	450.0
7. Special Minor Projects (including Bee-Keeping, Fertilizer Use Improvement, Statistics, Demonstrations, etc.)	72.2	120.0
8. Agricultural Credit and Contingencies (including loans for the Establishment of Viable Farm Units)	1,389.1	1,900.0
9. Other (including Administration, Technical Assistance to Farmers, Machinery, etc.)	539.9	750.0
B. Agricultural Research (including Administration, Experiments and Investigations, Improvement and Maintenance of Farms, Stations and Nurseries and Other Miscellaneous Expenditure)	**866.6**	**1,300.0**
C. Land Consolidation (including Administration, Equipment, Road Construction, Purchase of Land, etc.)	—	**600.0**
D. Meteorological Services (including Administration, Equipment, Experimental Project on Artificial Rainfall, etc.)	—	**200.0**
Total	**5,841.7**	**9,400.0**

Source : Planning Bureau.

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(1) Includes expenditures on Land Consolidation.

C. ANIMAL HUSBANDRY

1. Introduction

During the Second Plan period the animal husbandry sector attained the highest rate of growth among the fields comprising the broad agricultural sector. The share of livestock production in the value of gross output of agriculture increased from about 30.2% in 1966 to 32.6% in 1971. In the latter year the contribution of the sector to total agricultural exports was close to 3.8%.

Apart from its importance in the income generation process, the development of the sector also helps in the improvement of the nutritional standard of the population and particularly of the poorer classes. Its potential growth will inject a new built-in stability in agricultural incomes by diversifying the risks of uncertainty to which the plant production sector is exposed as a result of the vagaries of the weather and will assist the effort to restructure the balance of payments through import substitution. It should be noted that the value of imports of livestock products in 1971 amounted to nearly £3.7 mln.

2. Progress during the Second Plan

One of the main objectives of the Second Plan was to step up animal production with a view to strengthening the balance of payments position and improving the nutritional standards of the people. This was meant to be a longer-term objective which could not have been attained fully within the limited time span of a five-year period. However, the progress made during the Plan period was quite impressive as borne out by the following analysis.

2.1 Gross Output

Livestock production increased from £11.4 mln. in 1966 to £18.9 mln. in 1971 at constant 1966 prices, i.e. at an annual rate of 10.6% thus surpassing the Plan target of 9.6% per annum. Table 19 shows the value of production by group of livestock products for the years 1966 and 1971.

Value of Gross Output by Livestock Product, 1966 and 1971

TABLE 19

(*At Constant* 1966 *Prices*—£000's)

	1966	1971	1967–71	
			Actual Growth Rates % p.a.	Planned Growth Rates % p.a.
1. Meat	7,042	12,375	11.9	10.4
2. Milk	2,624	4,226	10.0	9.0
3. Eggs	1,050	1,344	5.0	7.0
4. Other Products (including wool, hides and skins, manure and honey)	641	923	7.6	6.6
Total	**11,357**	**18,868**	**10.6**	**9.6**

Source : Compiled by the Planning Bureau on the basis of data provided by the Department of Statistics and Research.

As will be seen from Table 19, with the exception of eggs, all targets of the Second Plan have been surpassed. As regards meat, the largest expansion occurred in the case of goat and kid meat (17.6% p.a.) and poultry meat (17% p.a.), while pork meat production increased by 13.6% p.a. Egg production experienced the lowest growth rate. This may be attributed mainly to the saturation of the market.

This progress was the result both of an increase in animal population and/or a rise in yields in all branches of animal husbandry.

In the cattle industry there was a fair increase in the production of beef and veal and a rapid increase of cows' milk. Production of beef and veal in 1971 amounted to 3,200 tons compared to 2,650 tons in 1966, whereas milk production increased from 15,500 tons in 1966 to 20,000 tons by 1971. The cattle population decreased from 34,000 in 1966 to 33,500 animals in 1971. The decline was the result of two factors, namely the reduction in the numbers of native cattle used either for beef production or as draught animals (due to more mechanization), while the number of cattle managed in larger organized calf-fattening units has increased. Meat yields of cattle have increased and met fully the Plan target of 160 okes of meat per animal (average dressed carcass weight). On the other hand, milk yields surpassed the target set of 2,700 okes per animal having attained the level of 2,800 okes of milk per animal.

The sheep and goat industry has been expanding rapidly. The production of sheep and goat meat increased from 4,900 tons in 1966 to 8,650 tons in 1971, while the production of sheep and goat milk increased from 32,000 tons to 54,600 tons respectively. The expansion in output was mainly the result of increased animal population. In 1966 there were 380,000 sheep and 300,000 goats and in 1971 460,000 and 365,000 animals respectively. Sheep and goat meat yields, on the other hand, remained more or less static and this, it is understood, because of the practice of slaughtering the lambs and kids at an early age. However, the period 1967–1971 witnessed the beginning of a structural change; the introduction of the improved breeds of Chios and Awassi sheep and Damascus goats had proved successful and has favourably affected the pattern of exploitation. The extensive system of raising animals has begun to give its place to the gradual adoption of semi-intensive methods and has contributed towards the improvement of local breeds and the faster expansion of animal population.

Ever since the importation of better breeds and as a result of better organization of the industry and the measures introduced by Government the swine industry has experienced an enormous quantitative expansion. Pork production in 1971 was 12,500 tons compared with 6,600 tons in 1966. This increase is entirely due to an expansion in animal population. The pig population increased from 69,000 in 1966 to 112,500 animals in 1971 and has undergone major qualitative improvements in its composition. The importation of new breeds (Large White, Landrace and Poland China) together with the adoption of better feeding, breeding and management methods has brought about substantial improvements in the quality of pork produced.

Substantial progress has also been made in the poultry industry. Poultry meat production increased from 4,500 tons in 1966 to 9,850 tons in 1971, while production of eggs went up from 7.5 mln. dozens to 9.6 mln. dozens, respectively. The country is now self-sufficient in both poultry meat and eggs. Considerable progress has also been made in the export of hatching eggs and day-old chicks to neighbouring countries. Private local hatcheries are in a position to cover fully the demand of organized poultry farmers with day-old chicks both for meat and egg production. The expansion in output was due to an expansion in the poultry population, which increased from 2.9 mln. in 1966 to 3.5 mln. in 1971 and to the higher productivity in egg production. The number of eggs per laying hen surpassed the Plan target of 160 eggs and increased from 143 eggs in 1966 to 165 eggs by 1971.

2.2 Exports

Remarkable progress has also been achieved in the field of exports. As will be seen from Table 20, exports of animal origin products more than doubled and reached the level of £1.1 mln. in 1971 compared with £0.5 mln. in 1966.

Exports of Animal Origin Products, 1966 and 1971

TABLE 20 *(At Current Prices—£000's)*

	1966	1971	Change (%) 1966–71
1. Halloumi, kephalotyri and other cheeses	129.2	288.4	123.2
2. Hides and skins, wool and hair	376.7	457.4	21.4
3. Other :			
Day-old chicks and eggs	0.2	230.3	—
Other	26.0	93.6	260.0
Total	**532.1**	**1,069.7**	**101.0**

Source : Department of Statistics and Research, Planning Bureau.

The expansion of exports followed closely the growth of output. The outstanding performance in the export effort was noted in the case of day-old chicks and eggs. The value of exports of these products increased from £200 in 1966 to more than £230,000 in 1971.

2.3 Consumption of Livestock Products

Apart from balance of payments considerations, the effort to increase livestock production also helps at improving the nutritional standards of the population. These products have a high protein content. The bulk of local production is consumed in the home market. Imports consist mainly of frozen meat, meat preparations and processed dairy products.

The period 1967–1971 witnessed considerable expansion in the consumption of meat and dairy products in general. Table 21 shows the changes effected in per capita consumption of meat.

TABLE 21

Per Capita Consumption of Meat(¹), 1966 and 1971

(Okes)

	1966	1971
1. Beef and veal	7.12	6.50
2. Mutton and lamb	5.44	8.54
3. Goat and kid meat	2.26	4.83
4. Pork	10.71	16.62
5. Poultry meat	5.98	12.33
Total	**31.51**	**48.82**

Source : Planning Bureau.

The share of locally produced meat to total meat consumption (excluding meat preparations and by-products) increased from 83.3% in 1966 to 89.2% by 1971. Consumption of meat increased more rapidly than anticipated, from a level of £8.4 mln. in 1966 to £13.9 mln. by 1971 compared with the planned level of £12.9 mln. During the same period the corresponding imports of meat increased only slightly from £1.4 mln. to £1.5 mln. indicating a substantial import substitution. Thus, no poultry meat was imported in 1971, whereas imports of pork fell from £94,000 in 1966 to less than £9,000 by 1971 and imports of beef fell from £970,000 to £635,000 over the same period. On the other hand, imports of sheep and goats' meat increased from £339,000 in 1966 to nearly £906,000 in 1971(²).

Imports of milk and milk products rose from £1 mln. in 1966 to £1.8 mln. in 1971 at current prices. Despite the substantial increase in local production of fresh milk, for a variety of reasons import substitution has not gone far enough. The per capita consumption of milk in liquid, solid or tinned form increased from 40 okes in 1966 to about 54 okes in 1971. On the other hand, egg consumption per capita also increased from 149 in 1966 to 177 eggs by 1971.

2.4 Progress in the Implementation of the Animal Husbandry Programme

To support and encourage private initiative in this field, a number of projects were undertaken and measures were taken by Government as follows :

(*a*) *Maintenance and Improvement of Livestock Stations :* Besides their experimental and educational value, these stations also provide animal breeders with improved and more productive breeding stock for multiplication or fattening at cost or at subsidized prices. Government livestock stations cover all kinds of animals of the animal husbandry population of Cyprus, as well as chicks and turkeys.

(*b*) *Importation of Animals :* The aim of this scheme was twofold : (i) the importation of young male calves for sale to interested farmers for fattening in an effort to assist increase local production of beef and veal ; and (ii) the importation of improved breeds of animals. The Second

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(¹) Including meat preparations and by-products.

(²) All values are expressed at constant 1966 producer prices.

Plan provided for the importation of selected Friesian cattle for multiplication and distribution. However, because of the establishment of the Margo Livestock Breeding Unit, which is going to meet, *inter alia*, the demand for such cattle, the original scheme was revised. The scheme for the importation of Chios sheep started in 1967 with the intention to form a nucleous stock for a sheep unit. Up to now 697 animals have been imported. During the period 1967–1971 a total of 938 ram lambs and 1,071 ewe lambs were sold to farmers from Government units. On the other hand, 760 Awassi sheep were imported since 1968, and by 1971 260 Awassi rams have been sold to farmers. The Plan provided also for the introduction of new blood in the swine population of Cyprus by the importation of suitable breeds, such as the American Poland China, Large White and Landrace. A total of 21 animals of these breeds were imported and 7,808 piglets produced at Government stations were sold to interested livestock keepers. In addition, a considerable number of turkeys and rabbits was imported, multiplied and distributed to interested farmers.

(*c*) *Milk Recording and Registration of Dairy Cattle* : Under this scheme, the milk yield of each individual cow in a sizeable sample was recorded once a month and regular milk samples were collected from each cow for butter fat and solids determination. The purpose of the scheme was to increase productivity of dairy cattle through better selection of breeding stock, help farmers and stock breeders practise economic feeding methods and adopt better breeding practices. The project succeeded in creating high milk producing herds of known recorded capacities from which breeding stock can be distributed to other breeders.

(*d*) *Production Registration Scheme and Swine Central Testing Station* : These schemes operated on similar lines as the previous scheme. The former scheme provided for the recording of litters produced both at Government farms and at progressive private swine units. These records will make possible the formation of a core of the breeding mother stock of the future. The breeding stock were classified as star animals according to their recorded performance. The swine central testing scheme is supplementary to the production registration scheme. The scheme envisaged the keeping of detailed records with regard to liveweight, food conversion, loin, eye muscle area, length, backfat thickness, rate of growth and other data necessary for the identification of superior swine. Both projects have contributed towards reducing the cost of production, improving the quality of swine meat and raising the percentage of the highly priced cuts of pork.

(*e*) *Lucerne Forage Dryer* : This project, which started operating in 1968 aimed at the encouragement of local production of lucerne meal by drying fresh lucerne at low cost. Ultimately, the project provided for the subsidization of the cost of drying lucerne at the Government plant by interested growers in an effort to encourage the utilization of saline water for the production of this fodder crop.

(*f*) *Other Projects* : During the Second Plan period a number of other specific projects were introduced such as the encouragement of livestock breeding in certain areas, etc. not to mention such other projects as the dry farming project, the mixed farming and the fallow land utilization project, described in other sections of the Plan document, the basic aim of which was the development of animal husbandry through the integration of livestock rearing with crop production. Finally, the Government in co-operation with the U.N.D.P. initiated preparatory work on the establishment of a livestock breeding unit at Margo, the impact of which will be felt during the Third Plan period.

(*g*) *Other Measures and Programmes :* The Government also assisted the development of animal husbandry through the supply of credit. The loan facilities extended to livestock breeders were channelled through the Central Co-operative Bank. Credit was made available through the Bank for the promotion of mixed farming in the potato growing villages of the Kokkinokhoria area and for the importation of calves for fattening and resale. Further long-term credit to individual breeders was provided through the Bank under Law 56/62 to cover needs in farm buildings, purchasing of animals and other long-term investment. The finance needs of the livestock farming sector were also partly met through short-term credit extended by village co-operatives.

Another field which attracted attention was marketing. During the Second Plan period, the Cyprus Dairy Industry Organization was established. About two thirds of the cows' milk supply was channelled through this Organization most of which was ultimately distributed to the manufacturers of dairy products. The balance was processed by the Organization into halloumi and certain types of cheese. The problems of meat marketing, slaughtering and the utilization of by-products were also studied with the assistance of F.A.O. experts.

(*h*) *Research and Extension Services :* Other programmes of direct relevance to livestock promotion were the research programme undertaken during the period by the Agricultural Research Institute and the work of the extension services of the Department of Agriculture. In the field of animal improvement, the research work undertaken was primarily concerned with the increase of milk and/or meat production through selection and cross breeding. Experiments were also carried out in the field of animal nutrition aiming at the utilization of cheap locally produced feeding stuffs and by-products of farms and wastes. Considerable work was also done on the improvement of management practices. The extension service continued its efforts to bring the results of the experiments to the doorstep of the farmers and to carry out general educational programmes to demonstrate known methods and practices for the better management of farms with a view to raising productivity. Activities in this field included short-term courses, lectures, educational shows, personal contacts, demonstrations, etc.

2.5 Veterinary Services

The existence of an effective veterinary service is of paramount importance for the development of animal husbandry, since many animal diseases not only can have detrimental effects on animal productivity but can also play havoc with the animal population. Besides increasing yields and reducing losses of animals, a well organized veterinary service is also important for safeguarding public health, since a number of animal diseases known as zoonoses are transmissible from the animal to man.

The main objectives of the Second Plan in the field of veterinary services were :—

(*a*) to increase the number of qualified professional veterinarians so that they might be able to cope with the increased demand for veterinary services ;

(*b*) to establish new veterinary stations in areas where the demand was greater ; and

(*c*) to expand laboratory facilities in order to improve diagnostic techniques, to prepare locally more vaccines, and to improve the effectiveness of the veterinary health inspection service.

Progress during the Second Plan period was as follows :—

(*a*) *Preventive Service :* Among the first concerns of the service is disease prevention. During the period of the Plan, the Island was kept free from serious animal diseases. To prevent the entry of diseases to the Island, the situation in countries exporting animal produce to Cyprus was kept under close watch and strict control measures governing the importation of animals and animal products were introduced. These measures were in some cases supplemented by annual prophylactic vaccinations which were carried out free of charge. Quarantine and slaughter of infected animals also proved effective in controlling and eradicating diseases. The following are some of the diseases which appear to have been effectively controlled in recent years and particularly during the Second Plan period : swine fever disease, the last outbreak of which occurred in 1967, anthrax (no cases having been recorded since 1966), foot and mouth and newcastle diseases (no outbreaks have occurred since 1964), and blue tongue which was controlled recently. Moreover, the incidence of such diseasees as haemoparasites and enterotoxaemia has recently been drastically reduced. Lastly, a campaign was undertaken in 1971 for the eradication of echinococcus with satisfactory results so far.

(*b*) *Clinical and Curative Services :* Apart from the preventive function, the recruitment of qualified veterinarians and the establishment of new rural veterinary stations enabled the Department of Veterinary Services to provide treatment and clinical services to animals and other services to animal stock owners throughout the Island. Individual animals are no longer brought to the district stations for treatment. Veterinarians are now in a position to visit livestock units in a number of regions. Veterinary staff in rural stations also perform an educational function in that they advise livestock owners on the proper methods of treating animals and preventing diseases. During the period under review 14 additional qualified veterinarians were recruited by Government. Moreover, four new sub-stations and seven new rural veterinary stations were established in different regions of the country.

(*c*) *Laboratory :* Substantial progress was also made with the establishment of well equipped and suitably staffed laboratory facilities. The laboratory is now divided into specialized sections, the activities of which are revolving mainly around the provision of diagnostic facilities as well as the production of vaccines for local use. The laboratory also examines samples of meat and milk products and advises manufacturers on the hygienic measures necessary. During the Second Plan period, a U.N.D.P. assisted project, the " Strengthening of the Veterinary Services ", came into operation and provided assistance mainly in the development and improvement of diagnostic techniques, the improvement of the quality standards of vaccines already produced, as well as the production of new vaccines, such as enterotoxaemia and virus abortion and the organization of regional training courses.

(*d*) *Public Health :* During the Second Plan period, a special section was established, which was made responsible for dealing with matters of public health. Under this scheme, all dairy cattle on the Island were tested for tuberculosis while at the same time a survey for trichinosis was completed. Both tests produced negative results. The public health section has also undertaken activities relating to the hygienic condition of milk products through inspection of cowsheds and milk products factories.

2.6 Development Expenditures, 1967–1971

For the implementation of the animal husbandry and veterinary services development programme the Government incurred expenditures totalling £1,122,000 during the period 1967–1971. Additional funds were made available out of the Ordinary Budget. Details on the realized development expenditures are given in Table 22.

Development Expenditures on Animal Husbandry and Veterinary Services, 1967–1971

(*£000's*)

TABLE 22

	Planned	Realized
1. Animal Husbandry	**1,160**	**769.0**
1.1 Cattle breeding and promotion	525	204.5
1.2 Sheep breeding and promotion	184	211.5
1.3 Goat breeding and promotion	106	58.3
1.4 Pig Industry	41	42.2
1.5 Poultry Industry	75	86.0
1.6 Livestock farms and stations	45	20.9
1.7 Other	184	100.6
1.8 Loans	—	45.0
2. Veterinary Services	**440**	**353.0**
2.1 Disease Control	140	62.2
2.2 Major Projects (Near East Animal Health Institute) (1)	70	6.9
2.3 Establishment of Veterinary Stations, Improvement of Existing Stations, Equipment, etc.	100	83.7
2.4 Other	130	200.2

Source : Planning Bureau.

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(1) The original title of the project was restyled to " Strengthening of Veterinary Services ". Other expenditures incurred on this project are included under item " Other ".

3. Future Development

The appraisal of the progress during the Second Plan period has revealed the existence of scope for more intensive systems of livestock farming and increasing yields.

On the other hand, the livestock sector is still faced with structural problems requiring action of a more long-term life span. Some of the retarding factors to future growth appear to be the following :—

(*a*) The existence of a market preponderantly geared towards fresh meat has, on account of the inadequacy of local supply, pushed up the prices of certain types of meat. On the other hand, in certain other branches of animal husbandry the saturation point appears to have been reached. The answer probably lies in opening up export outlets and/or further industrial processing.

(*b*) The preference for condensed milk as opposed to pasteurized milk, due partly to the price differential, has resulted in the creation of surpluses and in marketing problems.

(*c*) Despite the rapid increase in milk yields during the Second Plan period, sheep and goat farming is still dominated by low milk yielding animals. On the other hand, in the case of cattle, sheep and goat farming costs of production are high, and this because of the absence of natural pastures and for other reasons. Expansion of output seems to be accompanied by increased imports of feeding stuffs which in 1971 amounted to about £3.4 mln. This points to the need for reducing costs and ensuring a more economic production as well as for making more use of local feeding stuffs.

(*d*) Although a number of animal diseases have not made their appearance for some years now, it does not follow that control measures should be relaxed. The incidence of some other diseases has been reduced but control measures will have to be intensified for their complete eradication.

4. The Third Five-Year Plan, 1972–1976

The problems faced by the sector on the demand side cannot be tackled through action in this sector alone ; an intersectoral approach is needed. The same applies to problems concerning marketing, processing of livestock products and animal feeding stuffs. Thus, the animal husbandry development programme will be mainly supply oriented and will be designed to enable expansion of production, lowering of production costs and an improvement of the quality of livestock products.

4.1 Objectives of the Third Plan

The main objectives to be pursued and the means to be employed during the Third Plan period will be :—

(*a*) to improve further the nutritional standards of the people and to reduce the dependence on imports through increasing production in fields in which this is economically feasible and which have good marketing prospects ;

(*b*) to improve yields through the introduction, multiplication and distribution of improved stock, through better use of feeding stuffs and utilization of agricultural by-products and farm wastes and through better animal rearing practices ;

(*c*) to improve the quality of livestock products through, for example, the grading of milk and milk products, the registration of poultry breeding farms and hatcheries, etc. ; and

(*d*) to study ways and means for the more economic utilization of cows' milk, for improving marketing arrangements, for the provision of improved slaughtering facilities, etc.

4.2 The Future Consumption Pattern

In setting the livestock production targets the evolution of local consumption of various animal products must be established. As already mentioned, the bulk of domestic production is consumed locally. Future exports in the case of these commodities will depend on the possible excess of production over consumption, assuming that our production will be internationally competitive both quality and price-wise.

During the period of the Third Plan, consumption of meat (excluding meat preparations and by-products) is estimated to increase by over 42%, i.e. from £14.7 mln. in 1971 to about £21 mln. in 1976 at 1970 local producer prices. It is anticipated that the additional demand will be met wholly from local production and that some further import substitution may also be effected. Thus, the share of locally produced meat to total consumption will increase from 88.3% in 1971 to about 94% in 1976 (at constant 1970 prices).

In the case of sheep and goats' milk, it is expected that there will be sufficient demand to clear the anticipated supply ; most of the production of this milk will be used for the production of halloumi, which is an exportable commodity, and the balance will be absorbed by the yoghurt industry or will be consumed as fresh. As far as cows' milk is concerned, the problem of production, processing and marketing is currently under careful study. Per capita consumption of milk of all types is anticipated to increase from 54 okes in 1971 to 66 okes in 1976.

Cyprus is now self-sufficient in eggs, although small quantities of liquid, frozen or dried eggs are still imported, the value of which amounted to about £10,000 in 1971. Consumption of eggs will continue to be met wholly from local production, out of which a substantial number, mainly for hatching purposes, is expected to be exported. Per capita consumption of eggs will increase from 177 eggs in 1971 to about 200 eggs by 1976.

The above targets reflect a substantial increase in the standard of living and the attainment of improved nutritional standards for the population in the form of more protein consumption.

4.3 Gross Output

The value of gross output is planned to rise from about £20.4 mln. in 1971 to the level of £30.2 mln. by 1976 (at constant 1970 prices). The resultant growth rate of 8.2% p.a. is still higher than the planned growth rate for the economy as a whole and for the broader agricultural sector (6.9% p.a.). It is, however, somewhat lower than the one realized during the 1967–1971 period resulting from the comparatively more limited opportunities for future expansion of pork, poultry meat and egg production due to the relatively high levels of local consumption already attained. It should also be borne in mind that 1971 was an exceptionally favourable year especially for milk production. Table 23 indicates the changes anticipated in production over the Plan period.

Value of Gross Output by Livestock Product, 1971 and 1976

(*At Constant* 1970 *Prices*)

TABLE 23

	Value of Output (£000's)		Share (%)		Annual Rate of Growth (%)
	1971	1976	1971	1976	
1. Meat	13,025	19,717	63.74	65.38	8.6
2. Milk	5,206	7,542	25.47	25.00	7.7
3. Eggs	1,344	1,635	6.58	5.42	4.0
4. Other (incl. hides and skins, wool, manure and honey) ..	861	1,267	4.21	4.20	8.0
Total	**20,436**	**30,161**	**100.0**	**100.0**	

Source : Planning Bureau.

As will be seen from Table 23, the largest expansion is expected to occur in the case of meat production. Within this category the highest increase in volume terms is expected to come in order of magnitude from goats and kids, poultry, pigs, sheep and lamb and cattle.

All branches are expected to contribute to the expansion of production. In the cattle industry the annual growth rates for beef and cows' milk production are envisaged to be about 4.6% and 5.4%, respectively. The level of output is expected to result from increases in animal population and yields, the former being expected to increase from 33,500 in 1971 to 35,100 by 1976. The native cattle population, however, will show an absolute decline and is estimated to fall from 17,000 in 1971 to 15,000 in 1976, while the dairy cattle population will increase to 20,100 animals in that year. With regard to meat yields, it is anticipated that, with the increasing application of improved feeding and management practices and the introduction of improved breeds on a larger scale, there will be an increase from 160 okes per animal in 1971 to 170 okes by 1976. Milk production per animal will also increase from 2,800 okes in 1971 to 3,000 okes per animal in 1976, as a result of improved rearing methods and better quality breeds.

A rapid increase in production is expected from the sheep and goat industry. Meat from these sources is anticipated to increase from 8,650 tons in 1971 to 14,040 in 1976, whereas sheep and goat milk in 1976 will be in the region of 82,000 tons compared with 54,600 tons in 1971. In the case of sheep and lamb the increase in production will come primarily from an expansion of the animal population, which is expected to reach the level of 550,000 animals. Meat yields are anticipated to remain at the same level as in 1971 due to the practice of early slaughtering whereas average milk yields will increase from 65 okes per ewe in 1971 to 75 okes in 1976. In the case of goats and kids, both meat and milk yields are expected to increase as a result of the introduction of the improved breeds of Damascus goats which fatten more speedily ; the anticipated increases will be of the order of 2 and 20 additional okes over and above the 1971 level, respectively. Goat and kid population is expected to increase by about 20% during the Third Plan period.

Pork production is estimated to reach the level of 19,000 tons by 1976 compared with 12,500 tons in 1971. It is anticipated that the pig population will increase to about 156,000 animals by 1976 compared with about 112,500 in 1971. A fair increase in average meat yields is also expected, (from 56 okes in 1971 to 60 okes per pig in 1976). Thus, with the further importation of improved breeds, their selective multiplication and the demonstration of suitable swine husbandry practices, the average number of piglets weaned/litter (presently 7) as well as the conversion ratio of feed to liveweight, which is estimated at 4 : 1, will be improved. Also, with the identification of top animals, as far as growth yield of prime cuts is concerned, the quality and the percentage of loin, eye muscle area, etc. will also be improved.

The expansion in the field of poultry, as in the case of the swine industry, is not expected to be as high as that experienced during the Second Plan period. Poultry meat production is planned to increase from 9,850 tons in 1971 to 15,150 tons in 1976, while the production of eggs will go up from 9,600 thousand dozens to 11,680 thousand dozens by the same year. Poultry stock is assumed to increase at the rate of 3.6% p.a. and eggs per laying hen will rise from 165 in 1971 to 180 eggs in 1976. Improvements in the quality of hatching eggs and chicks as well as in the sanitary conditions of hatcheries will be effected through voluntary registration of poultry breeders and hatchery owners.

Finally, the Plan anticipates a moderate expansion in the case of other meat production activities of lesser significance, namely, pigeon and rabbit rearing. It is expected that, with the introduction of improved breeds for multiplication and distribution, production of pigeon meat will increase from £170,000 in 1971 to £210,000 by 1976 (at constant 1970 prices). Rabbit meat production, on the other hand, will also show expansion and its value is estimated to increase to £340,000 by 1976 compared with £280,000 in 1971, as a result, *inter alia*, of the increased interest expected to be shown by the private sector to develop this field of activity on a more commercialized basis.

4.4 Exports

As it was pointed out earlier, only a small proportion of locally produced livestock products are presently exported. In 1976 the largest share in the value of exports will be taken by the traditional export items, such as halloumi, kephalotyri and other Cyprus cheeses, as well as hides, skins and wool. Table 24 indicates the anticipated evolution of livestock products exports.

TABLE 24

Exports of Animal Origin Products, 1971 and 1976

(*At Current Prices — £000's*)

	1971	1976
1. Halloumi, kephalotyri and other cheeses	288.4	448.0
2. Hides and skins	345.7	425.0
3. Meat and meat preparations	48.8	279.0
4. Wool	111.7	124.3
5. Eggs	75.6	186.5
6. Day-old chicks	154.7	424.1
7. Other	44.8	86.0
Total	**1,069.7**	**1,972.9**

Source : Planning Bureau.

An important characteristic of the composition of exports in 1976 is the rising share of day-old chicks as well as of meat and meat preparations ; the anticipated level of exports in the case of this latter item is expected to result from the expanded efforts of the newly established meat processing industrial units.

4.5 Means for Attaining the Plan Targets and Objectives

The realization of the targets and the attainment of the objectives of the Third Plan will require a series of supporting measures and programmes. The projects to be implemented and the incentives to be provided will aim primarily towards encouraging animal breeders to abandon further the extensive system of livestock farming for a semi-intensive system, which will economise on scarce resources and will tend to remove some of the weaknesses of the present organization of agricultural holdings. The Government programme will also enable a diversification of the composition of animal population in favour of high-yielding improved breeds.

4.5.1 New Projects and Schemes

The projects and schemes already referred to in earlier paragraphs will be continued during the Third Plan period and in addition a series of new projects will be implemented. The new main projects are :—

(i) LIVESTOCK PRODUCTION IMPROVEMENT PROJECT

This is a major U.N.D.P. assisted project. The main objectives of the project are (*a*) the establishment of an animal production centre at Margo, (*b*) the development of nucleus herds of cattle and flocks of goats and sheep, (*c*) the study and improvement of the milk and meat producing potentials of these animals, (*d*) the development of artificial insemination techniques and the distribution of genetic material for improving livestock production in the Island, (*e*) the improvement of management methods and (*f*) the establishment of a vocational training centre for farmers. As mentioned earlier, enough preparatory work was done during the Second Plan period with the provision of basic facilities required by the project.

(ii) ESTABLISHMENT OF LIVESTOCK AREAS

The aim of this project is to overcome the difficulty arising from the fact that, for hygienic reasons, the appropriate Authorities do not allow the construction of mandras within the built-up area of the villages where the required water, electricity, roads and the like are available. The main purpose of the scheme is to provide infrastructural services to livestock development areas, which may include small plots of land on a leasehold basis, water, electricity, roads and a dipping tank. The concentration of farmers in such areas may also facilitate the formation of co-operative dairies, the establishment of hay stores, and possibly the establishment of small feed mixing plants.

(iii) ENCOURAGEMENT OF HIGH QUALITY MILK PRODUCTION

This scheme will provide for the payment of a premium to those cow-keepers, whose milk samples will give satisfactory bacteriological results, as an incentive for the additional effort to produce better quality milk. The scheme aims at improving the bacteriological standard of milk and encouraging farmers to adopt improved methods in clean milk production.

(iv) REGISTRATION OF POULTRY BREEDING FARMS AND HATCHERIES

This scheme envisages the voluntary registration of poultry and hatchery owners, who will follow certain regulations concerning the quality of the breeding stock, hatchery sanitation, health of stock, size of egg used for incubation and its proper care, the quality of the chicks produced, etc. The ultimate objective of the scheme is to improve productivity by encouraging the production of healthy and better quality chicks and hatching eggs, which will perform better in egg and meat production.

(v) OTHER PROJECTS

Other projects which are closely related to Animal Husbandry but are included in the list of projects for the development of Plant Production will continue to be implemented during the Third Plan. Such projects are the mixed farming project, the dry farming project, the pasture development project, the project on promotion of hay-making, the kafkalla land improvement project, etc. It will suffice here to emphasize that the expansion of livestock production planned for the Third Plan period presupposes the availability of feeding stuffs, particularly during certain periods of the year, such as the pregnancy and the lambing period. The main objectives of the above projects are to substitute locally produced forage crops for imported feeding stuffs and to encourage the further integration of crop and animal production.

4.5.2 Animal Husbandry Research Programme

The research programme in animal production during the period 1972–1976 will be a continuation and expansion of the present work carried out by the Agricultural Research Institute and will be concerned with studies on animal improvement, nutrition and management whose results will have a direct impact on the lowering of costs of production. In the field of animal improvement, work will be primarily concerned with the improvement of the meat and milk producing capacity of animals through the application of the principles of genetics and biometry, the importation of improved breeds for cross-breeding purposes and the collection and analysis of records. Regarding animal nutrition, the objective is to make the maximum use of locally produced feeding stuffs and agricultural by-products and wastes such as barley, straw, lucerne and carobs, poultry litter, citrus and grape pulp and urea so as to reduce imports for feeding stuffs and produce meat and milk more economically. In the field of management, work will be continued on the handling of animals such as early weaning, restricted suckling, artificial rearing of lambs, docking of lambs, etc. This work will be expanded during the period to cover additional areas, such as time of mating and frequency of mating of ewes, age at slaughtering of lambs, intermediary metabolism of minerals, etc. Certain of these research projects will be carried out jointly with the Margo Livestock Breeding Unit.

4.5.3. Extension Services and Publicity

The task of the extension services is to transmit information of importance to producers and to advise them on ways and means for improving efficiency. Demonstrations on modern scientific means of production and on the manufacture of dairy products (halloumi, fetta, yoghurt, etc.) will also be carried out in addition to educational lectures on animal husbandry practices which will be delivered to breeders at various parts of the country. In an effort to supplement the above activities and to stimulate interest on various technical aspects of production and management audio-visual aids will be used. In addition bulletins and leaflets will continue to be distributed to breeders to keep them well informed on technical developments. The annual Livestock Show also will be continued.

4.5.4 Other Measures

Apart from the general agricultural credit provided under the existing scheme through the Central Co-operative Bank, the Government intends to provide additional allocations specifically for the livestock production sector. Such a scheme was operated successfully during the Second Plan period and will be continued. The scheme will aim at promoting specific projects, such as encouragement of livestock breeding in the Kokkinokhoria area, establishment of livestock areas and other similar projects. Short-term credit will continue to be provided by village co-operatives.

Another area which will be examined concerns the surpluses of cows' milk which are now directed to the cheese factory of the Cyprus Dairy Industry Organization. The Government has already invited foreign consultants to study the issue in depth.

The present arrangements with regard to slaughtering are not conducive to efficient marketing, grading and economic utilization of animal by-products. Various possibilities are being studied in this connection.

4.6 Veterinary Services

4.6.1 Objectives

The objectives of the Third Plan are :

(*a*) To continue with the investigation of disease outbreaks, to take measures to prevent entry of diseases and to control and eradicate existing and new animal diseases that may appear in the Island ;

(*b*) to deal effectively with public health problems and especially with zoonoses ;

(*c*) to proceed further with decentralization of the veterinary services in areas where there is high concentration of animal population ;

(*d*) to upgrade the quality of the cattle and sheep population through artificial insemination ;

(*e*) to create gradually the necessary conditions which will enable ultimately the transfer of the curative function from the public to the private sector.

4.6.2 Means for Attaining the Objectives of the Plan

Veterinary Stations : Decentralization of the veterinary stations is essential for the early detection of disease outbreaks and for the carrying out in time eradication campaigns, vaccinations, public health activities and generally to enforce legislation. Furthermore, with decentralization an educational programme on disease prevention, hygienic measures, etc. can be carried out more effectively. During the Third Plan period new rural stations in regions with a high concentration of animal population will be established.

The Strengthening of the Veterinary Services Project : This project started operations in September 1969 as a U.N.D.P. Special Fund project. A request has already been submitted to U.N.D.P. for extending the project up to 1974 on the same lines as described in earlier paragraphs.

Public Health-Eradication Campaigns : Echinococcus is a widespread disease not only in sheep and goats but among human beings as well. The eradication campaign which was undertaken in 1971 will continue during the Third Plan and it will provide mainly for (*a*) the implementation of the regulations relating to the eradication of echinococcus, (*b*) public education by posters, booklets, leaflets, articles, radio talks, etc., (*c*) destruction of stray dogs and registration of dogs which will undergo treatment and (*d*) establishment of mobile units for the treatment of infected dogs. An eradication campaign against Brucellosis, a disease affecting sheep, goats, cattle and humans, will also be undertaken. The disease was first detected in 1966 and was finally confirmed in 1969. Since the incidence of the disease is at present low, a slaughter policy of the infected animals is considered to be an effective means to eradicate it. The scheme will provide for compensation to be paid to the owners of the infected animals to be slaughtered. Eradication campaigns against other zoonoses will also be undertaken. To safeguard public health the hygienic condition of cowsheds and milk products factories will continue to be inspected and samples of milk and milk products will be examined.

Artificial Insemination : Artificial insemination can improve the quality of the animal population quickly without having to resort to the multiplication of the highly costly improved breeds on a large scale. During the Third Plan, the method of artificial insemination will be applied on cattle and sheep on an Island-wide basis. As liquid semen can only be used for a short period after collection, it is proposed to introduce the " frozen semen technique " in which case semen can be stored for a long time and be made available at all times.

4.7 Development Expenditures, 1972–1976

For the implementation of the development programme in the field of Animal Husbandry (including the Veterinary Services) the Plan provides for the allocation of £2.7 mln. out of the Development Budget during the period 1972–1976 to be spent as shown in Table 25.

Development Expenditures on Animal Husbandry and Veterinary Services, 1972–1976

(£000's)

TABLE 25

	1967–71	1972–76
	Actual	Planned
1. **Animal Husbandry**	**769.0**	**1,700.0**
1.1 Cattle Breeding and Promotion	127.7	75.0
1.2 Sheep Breeding and Promotion	134.7	85.0
1.3 Goat Breeding and Promotion	57.8	80.0
1.4 Pig Industry	42.2	60.0
1.5 Poultry Industry	86.0	60.0
1.6 Major Projects (incl. Livestock Breeding Unit, Livestock Areas, Loans, etc.)	199.1	1,080.0(1)
1.7 Other (incl. Administration, Livestock Farms and Stations)	121.5	260.0
2. **Veterinary Services**	**353.0**	**950.0**
2.1 Disease Control	62.2	370.0
2.2 Strengthening of the Veterinary Services Project ..	6.9	30.0
2.3 Establishment of Veterinary Stations, Improvement of Existing Stations, Equipment, etc.	83.7	150.0
2.4 Other (incl. Administration)	200.2	400.0

Source : Planning Bureau.

D. FORESTRY

1. Introduction

Forest land constitutes about 18.7% (669.5 sq. miles) of the total area of Cyprus. Of this, an area of 609.3 sq. miles is owned by the State and the remaining area by private individuals or communities. In economic terms, however, the forestry sector does not make any significant direct contribution to the income generation process of the country at present. The value of gross output of the sector was estimated at about £246,800 in 1971 (at current prices), while the sector affords employment to a total number of 3,705 persons, out of which 475 persons are employed directly in the administration, management, protection and production of timber and the rest in minor timber industries and homecrafts. The future importance of the sector lies in its potential to supply on an expanded scale the raw material needed for industrial growth in wood industries and hence in its indirect contribution to the construction, transport and other productive sectors of the economy and the balance of payments. In non-quantified terms, the forestry sector contributes considerably to the amelioration of the climate and the preservation of the soil and water resources of the Island and in this respect it can play a significant role in the productive process, especially in view of the extensive soil erosion and the overall water shortage in the country. Finally, but not least in importance, is the contribution that forestry can make in providing green areas, parks and other facilities needed for the anticipated expansion of tourism.

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(1) Includes provision for cattle and sheep breeding and promotion previously allocated under items 1.1 and 1.2.

2. Developments during the Second Plan, 1967–1971

2.1 Objectives of the Second Plan

These were :

(*a*) maintaining and renewing the forest stock ;

(*b*) preventing forest fires and reforesting areas destroyed by fire ;

(*c*) utilising the permissible yield of mature trees for the local timber and wood industries ; and

(*d*) developing forest amenities and recreation facilities including national parks, roadside plantations and embellishment of public and other grounds.

The above objectives were defined more clearly in terms of specific targets expected to be met by the Forest Department.

2.2 Progress in Attaining the Targets and Objectives of the Second Plan

The contribution of the forestry sector to the gross output of the economy has fallen short of the Plan target of £400,000 (at constant 1966 prices), having risen from £186,000 in 1966 to £210,000 in 1971, i.e. at an annual rate of 2.5%. The main reason for this was the delay in exploiting the forest raw material for industrial purposes. The establishment of the envisaged timber utilization industries was not effected during the period under review because considerable time had to be devoted to the completion of feasibility studies. The modest increase in output realized was due to the expanding needs of existing sawmill units, whose expansion prospects were limited. The volume of timber extracted from State forests over the period under review is estimated to have risen from 1 mln. cu. feet of roundwood in 1966 to 1.1 mln. cu. feet in 1971, whereas the volume of firewood declined from 578,780 cu. feet in 1966 to 404,081 in 1971. During the same period the output from privately owned forests is estimated to have risen from a level of 130,341 cu. feet of roundwood and 47,721 cu. feet of firewood to a level of 174,625 cu. feet and 68,318 cu. feet respectively. In value terms the gross output of the forestry sector is shown in Table 26.

TABLE 26

Gross Output of Forestry, 1966 and 1971

(*At Constant* 1966 *Prices—£000's*)

	1966	1971	Annual Rate of Growth (%)
1. Government Sector	170	188	2.0
2. Private Sector	16	22	6.6
3. Total	186	210	2.5

Source : Compiled by the Planning Bureau on the basis of data contained in the Agricultural Survey carried out by the Department of Statistics and Research.

For the attainment of the objectives of the forestry development programme a number of projects and schemes were implemented by the Government during the Second Plan period and a total amount of £775,975 was spent in the form of development expenditures compared with a target allocation of £850,000 (Table 27).

TABLE 27

Forestry Development Expenditures, 1967–1971

	Planned £	Realized £
1. Establishment, Maintenance and Protection of Forests ..	400,000	345,330
2. Forest Roads and Bridges	164,000	158,355
3. Forest Telecommunications	36,000	19,805
4. Accommodation and Housing..	40,000	38,874
5. Research and Extension	40,000	29,159
6. Other (including Administration Expenditure)	170,000	184,452
Total	**850,000**	**775,975**

Source : Planning Bureau, Financial Reports.

More analytically the programme implemented during the period covered the following fields :

An area of 25,006 donums was reforested and 54,531 donums were treated from the point of view of silviculture. In order to meet the expanding needs in forest roads, both from the tourist point of view and for the anticipated larger utilization of forest trees for industrial purposes, as well as for forest protection and preservation, a heavy road construction programme was undertaken. The additional mileage of new forest roads, paths, fire traces and jeep tracks completed reached a total of 386 miles. For successful fire fighting operations and effective forest management and supervision considerable amounts were spent on the purchase of telecommunication equipment and the installation of telephone lines, on forest buildings and equipment, as well as on water and electricity supply to forest stations. Sizeable sums were also spent on forest consolidation, research and extension work and on the establishment and improvement of picnic grounds in various places. Finally, the Department of Forests continued its activities on the production of forest seedlings and the collection of seeds. It is estimated that during the 1967–1971 period a total of about 2.5 mln. seedlings were raised to serve the needs of reforestation of Government and private forests, as well as for the implementation of minor embellishment schemes and for other uses. During the same period 15,360 kgs. of seeds were collected, out of which 6,340 kgs. were exported.

3. Problems for Future Development

The underutilization of the production of forest areas in Cyprus is perhaps the most important drawback of the sector. It is estimated that the allowable cut based on the principle of sustained yield amounts to a total of about 2.3 mln. cu. feet per annum, whereas as mentioned earlier, only about 1.1 mln. cu. feet per annum is currently removed. The high degree of underutilization of forest raw material is primarily due to the absence of sufficiently large local industries to utilize and process the raw material. The new forest industries complex, which is about to be set up, is expected to fill this gap and to utilize available raw material, which is now wasted in the forests and has resulted in an uneven age distribution of the existing stock of forest trees.

Thus, the most important area to which attention will be directed during the period of the Third Plan is to re-orient forest development policy and integrate its objectives with those of the industrialization programme. This move requires changes in such areas as the degree of utilization of the production of forest trees and timber, the felling and regeneration systems and the logging and transportation system. Such a change is more necessary now in view of the establishment, at Government initiative, of the Cyprus Forest Industries Co. Ltd. as a public company, in which Government retained control by participating directly to the extent of 51% of the share capital.

4. The Third Five-Year Plan, 1972–1976

4.1 Objectives of the Third Plan

The forest development objectives of the Second Plan will continue to guide developmental activities during the Third Plan period as well. Major emphasis, however, will be placed on the industrial utilization of forest raw materials. Thus, the main objectives of the Third Plan may be summarised as follows :—

(*a*) Substantially increased emphasis on the proper utilization of forest production.

(*b*) Introduction of more efficient felling systems.

(*c*) Reorganization of the system of logging and transportation of the raw material which will allow an expansion of forest sales and a reduction of the operational costs involved.

(*d*) Gradual stepping up of the investment programme for reforestation and road construction to meet the more diversified uses of the forests.

(*e*) Maintenance, renewal and expansion of the forest stock.

(*f*) Development of forest amenities and recreation facilities.

4.2 Prospects and Targets of the Third Plan

4.2.1 Prospects

Given the present and anticipated development of the manufacturing and construction sectors, the prospects with regard to the demand for the products of the forestry sector are promising. Because of the absence of local timber utilization industries, considerable quantities of wood and wood products are currently imported. The value of these imports reached the level of £3.9 mln. in 1971 compared with only £1.8 mln. in 1966. If the imports of paper and paper products were added, the value of imports during these two years were £7 mln. and £3.3 mln. respectively.

From the above analysis, it appears that there are prospects for substantial import substitution. It is not possible, however, to cover the entire range of imports of wood and wood products with local production. The above mentioned forest industries complex will include four factory units, namely, a modern sawmill, drying-kilns for the production of seasoned timber, a basic manufacturing process unit for the production of particle board and an industrial plant for the production of veneered particle board. It is anticipated, however, that, when the units will be operated at full capacity sometime after 1976 the complex will be able to absorb the entire raw material quantity to be produced (pine) over and above the existing supplies, which would remain unutilized in the forests.

4.2.2 Targets

The gross output of the forestry sector is estimated to rise from £236,000 in 1971 to £386,000 by the end of 1976 (both at 1970 prices), i.e. by an annual rate of about 10.3%. This target is consistent, *inter alia*, with the aim of disposing by 1976 of around 2 mln. cu. feet of roundwood from State forests out of an allowable cut estimated at 2.3 mln. cu. feet (round under bark) per annum.

In line with these targets, the Third Plan provides for higher targets than those attained during the Second Plan period in the fields of reforestation, silviculture and road construction. The attainment of these targets, however, is essential not so much for the achievement of the growth rate envisaged in the Third Plan, but for the uninterrupted development of the sector in the long-run.

4.3 Means for Attaining the Targets and Objectives of the Third Plan

Some of the main measures and policies are briefly discussed in the following paragraphs :

(i) Felling System

The continued underutilization of the forest raw material and the resultant uneven age distribution of forest trees had as a corollary the practising of the " selective " felling system which fitted into the objectives of forest development policy formulated at the time. However, the system of selective felling results in high manual inputs and costs. Under this system the trees to be felled in an area are marked by the Forest Department and felling, logging and transportation is left in the hands of private individuals, who may be independent contractors or sawmillers. Thus, the costs of felling, logging and transport per unit of output are unnecessarily high. The anticipated large-scale disposal of timber to a single industry will necessitate the introduction of a more efficient felling system. It has been suggested that the alternative to the present system is the " clear-cut " system under which the number of trees to be removed from one area is much larger than under the " selective " felling system. Such a system might reduce costs and enable an increase of the scale of reforestation if combined with simultaneous regeneration. On the other hand this system renders the selection of areas to be felled of crucial importance for the preservation of the forests. A decision as to the most appropriate felling sytem to follow will be taken in the early stages of the Third Plan.

(ii) LOGGING AND TRANSPORT SYSTEM

Closely related to the felling system is the problem of logging and transport. Felling to-day is done with power chain saws, whereas logs are hauled manually down the steep slopes and gullies and are loaded on lorries for transport to the mills. The number of units involved in carrying out these operations is comparatively large and this results in a duplication of facilities and in high operational costs which are passed over to the consumer. It has been proposed that a new system of logging which could be considered would consist of modern skidding equipment for logging purposes combined with mechanized methods for the opening of contour strips for regeneration. This system is based on the "clear-cut" felling method. As far as the transportation of logs and timber from the forests to the various mills is concerned, the most economic solution is apparently the use of trucks equipped with trailers. With regard to organizational arrangements to be made for logging and transport it has been suggested that the Government, as the main supplier of timber, should take more active part in logging and transport operations. A final decision will be taken in the very near future.

(iii) REFORESTATION, SILVICULTURE AND ROAD CONSTRUCTION

The present heavy reliance on the pine leaves the forestry sector exposed to the supply and demand forces for a single commodity. The reforestation policies will be reviewed with a view to diversifying the production of forest species. Moreover, the introduction of the new dimension in forest policy concerning the large-scale industrial exploitation of the production of pine will necessitate a review of the criteria and priorities in locating reforestation activities and in silvicultural practices and road construction. The areas which will be covered by the expanded programmes of reforestation and silviculture will be classified into well defined zones and sub-regions within these zones, for which a series of statistical data will also be systematically collected and utilized for future planning purposes. Finally, despite the fact that the forest road system has been improved considerably, the road construction programme to serve multi-purpose uses, such as access to larger areas for industrial forest use, picnic grounds and other tourist potential uses needs to be accelerated.

4.4 Forest Development Expenditures, 1972–1976

The fixing of the development expenditures targets for the 1972–1976 period was done against the background of the above measures and policies. The assumption has also been made that the Government will undertake itself logging and transport operations. If a different arrangement is finally made the development expenditure allocated will be revised accordingly. Details on the development expenditure earmarked for the forestry sector for the period 1972–1976 are given in Table 28.

TABLE 28 **Forest Development Expenditure, 1972–1976**

	1967–71 Actual £	1972–76 Planned £
1. Establishment, Maintenance and Protection of Forests ..	345,330	500,000
2. Forest Roads and Bridges	158,355	225,000
3. Forest Telecommunications	19,805	20,000
4. Accommodation and Housing	38,874	40,000
5. Forest Consolidation, Research and Extension	29,159	50,000
6. Other (incl. Administration and Logging and Transport Equipment, etc.)	184,452	390,000
Total	**775,975**	**1,225,000**

Source : Planning Bureau.

Establishment, maintenance and protection of forests : This item includes expenditure for the implementation of schemes, such as reforestation, silviculture, forest nurseries and production of forest seeds, fire traces and vehicle tracks, paths and other minor schemes. Increased emphasis will be placed on reforestation and silviculture. Thus it is tentatively envisaged that during the period 1972–1976 a gross area of 42,000 donums will be reforested (including industrial plantations) and silvicultural activities will cover an area of 70,000 donums.

Forest roads and bridges : At present there are large forest areas, especially in the Paphos Forest, which have not yet been touched due to lack of access roads. Expenditures, earmarked under this heading will be utilized for the construction of access roads to facilitate the exploitation of timber remaining standing on virgin forest land and are, therefore, relevant to the establishment of the new timber utilization industry.

Remaining programmes and projects : The remaining items cover programmes and projects directly relevant to the raising of the efficiency in the management of forest resources and the achievement of other objectives of the forestry sector. The largest single item of allocated expenditure relates to the purchase of machinery and equipment for the needs of a new unit of logging and transport of timber assuming that it will finally be decided that Government should engage itself in this operation. Smaller amounts are provided for the continuation of existing schemes, such as the creation of picnic grounds, forest pavillions and camping grounds, roadside plantations and other embellishment works.

E. FISHERIES

1. Introduction

The contribution of the fisheries sector to-day is insignificant if measured in terms of gross output and employment. In 1971 the sector contributed an amount of £646,900 at current prices or only 0.9% of the total gross output of the agricultural sector. In the same year the fisheries sector provided employment to 706 persons, out of which 452 persons were reported to be full-time, and the remaining part-time or occasional fishermen.

The importance of the sector, however, lies in its potential contribution to the improvement of the dietary standard of the people and in foreign exchange savings. In 1971, a total amount of £227,289 was spent on imports of fresh, chilled or frozen fish, and a sum of £414,633 was spent on imports of fish salted, dried or smoked and other fish preparations. Admittedly, only a proportion of the above imports can be replaced by the local supply of fish. The marginal propensity to consume fish products is high at the present level of per capita income and imports of such products are likely to grow faster than hitherto, unless local supply increases accordingly.

The consumption of fish products in general can raise the nutritional standards of the population. The present per capita fish consumption in Cyprus is estimated to be low (5.3 kgs) compared with that of other Mediterranean and European countries.

2. Past Performance and Progress—The Second Plan, 1967–1971

An appraisal of the extent to which the objectives and targets of the Second Plan have been met will help identify problem-areas to which more attention should be directed in the Third Plan.

2.1 Objectives of the Second Plan

The basic objectives of the Second Plan were:—

(i) to continue the exploration of inshore, pelagic and long-distance fishing grounds ;

(ii) to look into other possibilities of fishery development, such as sponge fishing and fresh water fish culture ; and

(iii) to provide financial facilities and extension services to fishermen and trawler owners to enable them to improve and expand their activities.

2.2 Progress in Attaining the Plan Targets and Objectives

2.2.1 Gross Output

The main target of the Second Plan was to increase the value of local fish production at an average rate of 10.8% per annum. The annual growth rate achieved was 8.9%. It should be noted, however, that during the 1966–1970 period production expanded at an annual rate of 13.7%. The setback experienced in 1971 is attributed, mainly, to the fact that the efforts to increase fish landings through fishing in international waters were not successful in that year for reasons beyond our control. More details on the evolution of gross output are given in Table 29.

Quantity and Value of Gross Output of Fisheries, 1966, 1970 and 1971 (1)

TABLE 29

	1966		1970		1971	
	Tons	£000's	Tons	£000's	Tons	£000's
1. Inshore Fishing	468	159	850	289	760	258
2. Trawl Fishing :						
(*a*) Territorial Waters ..	434	63	470	68	457	66
(*b*) International Waters ..	25	4	90	14	13	2
3. Fish Culture (inland) ..	—	—	3	2	7	6
4. Sponges	—	—	0.5	4	2	14
Total	**927**	**226(2)**	**1,413.5**	**377**	**1,239**	**346**

Source : Fisheries Department, Planning Bureau.

(1) Values are expressed at constant 1966 prices.
(2) The 1966 base value given in the Second Plan was subsequently revised.

Regarding inshore fishing the Plan target for increasing output by 30–40% was surpassed, having risen by 62.3% during the period under review. As it was anticipated, the results of trawler fishing in local waters have not been encouraging. In fact, fish catches in this case increased only slightly between the years 1966 and 1971. As far as trawl fishing in international waters is concerned, after an impressive start, progress was interrupted in 1971. Finally, in the case of fresh water fish culture, trout farming and to a lesser extent sponge fishing experiments have been successful and about 7 tons of trout and 2 tons of sponge were produced in 1971.

2.2.2 Development Expenditures, 1967–1971

In pursuance of the above targets and objectives the Government designed and implemented during the Second Plan period an expanded fisheries development programme. The programme was anticipated to cost £400,000, but for various reasons the amount of development expenditure realized was £314,531. This is still a creditable effort, especially in view of the fact that during the First Plan period only £70,000 were spent in this field. Table 30 provides a summary picture of the size and the implementation rate of the Government programme during the last five years.

Development Expenditures on Fisheries, 1967–1971

TABLE 30

	Planned (£)	Actual (£)
1. Research, Investigations and Surveys (incl. Purchase of Equipment)	80,000	70,685
2. Construction of Fishing Shelters	80,000	70,093
3. Other Projects (incl. Fish Culture)	100,000	37,365
4. Administration, Technical Assistance, etc.	40,000	104,435(1)
5. Loans for Fisheries Development	100,000	31,953
Total	**400,000**	**314,531**

Source : Planning Bureau, Financial Reports.

(i) RESEARCH, INVESTIGATIONS AND SURVEYS

In the field of research and exploration of fishing grounds considerable work involving biological sampling, oceanography and light fishing trials has been carried out relevant to inshore fisheries, trawl and pelagic fishing. The primary aim of this research work was to find out more about the concentration, conservation and proper management of fish stocks, some of which appear to be overfished. In order to strengthen the research programme, a suitable research vessel was acquired towards the end of the Plan period. However, the results obtained so far are still inadequate for the purpose of drawing definite conclusions on the size of our fishing resources.

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(1) This expenditure was incurred in respect of scientific and auxiliary personnel engaged mainly on research, investigations and surveys.

(ii) CONSTRUCTION OF FISHING SHELTERS

The construction of fishing shelters increases productivity per fishing craft at work through (*a*) the employment of larger capacity crafts which can be used to fish in waters away from the seashore ; (*b*) the consequential use of better gear and equipment of higher efficiency ; and (*c*) the increased number of working days. Fishing shelters also allow fishermen to move from place to place, following schools of fish (mainly pelagic species), which might pass close to the coastline during certain seasons of the year.

During the 1967–1971 period, the Government constructed three additional major shelters, namely at Yialousa, Chelones and Ayia Napa and one minor shelter at Vavilas. In addition, improvements were effected to existing shelters.

(iii) OTHER PROJECTS AND SCHEMES

During the Second Plan period important strides forward were made in the field of fresh water fish culture. The experiments carried out at Kalopanayiotis proved that trout farming in Cyprus is technically and economically feasible. Already these results have induced the private sector to take the initiative and develop this branch of fisheries on a commercial basis. Preliminary experiments for the culture of sponges have shown that this venture is technically feasible ; the aim now is to establish whether it can be economically viable as well. During the period under review facilities were made available at Gastria to carry out experiments on marine farming with molluscan species, crustacea, grey mullet and breams, bass and other similar species. Fish culture experiments for stocking dams with fish species were also carried out successfully. In 1969 sport fishing in inland waters was allowed for the first time in Cyprus.

Two other important schemes, which were operated successfully during the Plan period, were the subsidisation of the purchase of equipment by inshore fishermen and the subsidisation of trawler fishing operations in distant international waters. As a result of the former scheme 100 echosounders and other improved equipment were acquired by inshore fishermen. The latter scheme also proved to be effective and the results showed that from 1967 to 1969, during which period fishing in international waters continued unhampered, production increased from 4 tons to 114 tons, respectively.

(iv) ADMINISTRATION AND TECHNICAL SERVICES

In an effort to expand the research programme and the technical assistance rendered to fishermen, the Government has strengthened the Fisheries Department with the recruitment of more scientific and auxiliary staff. The scientific personnel of the Department alone increased from three persons in 1966 to nine in 1971.

(v) LOANS FOR FISHERIES DEVELOPMENT

The loan financing scheme is applicable to both the inshore and the trawler branches of the fishing industry. In the former case credit facilities extended aim at assisting full-time fishermen, who do not own or have lost their boats at sea, to purchase new suitable crafts and part-time fishermen to acquire boats and, thus, devote more time to fishing at sea. The scheme also aims towards enabling small boat owners to replace them with larger capacity boats. The loan scheme for trawlers intends to facilitate trawler owners to purchase new engines, freezing installations, fitted deck and other equipment and to replace existing trawlers unsuitable for fishing in international waters.

3. Future Development

The major bottlenecks hindering the attainment of a rapid growth in fisheries are confined almost entirely to the inability of the sector to supply enough quantities of fish to satisfy the already high demand for the product. These obstacles emanate mainly from the fact that fish resources in territorial waters are generally poor because of the very limited width of the continental shelf surrounding the Island.

Still, the proper exploitation of these poor fish resources is handicapped by the lack of sufficient knowledge on their potentials and the availability of exploitable new fishing grounds, of complete biological and statistical data on the existing fishing stock and its annual growth, which is particularly relevant to inshore fisheries, of definite information and experimental results on migratory species within the territorial waters, which is important for pelagic fisheries, and by the inability of the sector to attract increasing numbers of young persons to work permanently at sea.

Finally, fish culture of various species, which is a promising future source of fish, warrants continuous experimentation until new kinds of fish suitable for farming under Cyprus weather conditions and on a commercial basis are tapped, while fishing in international waters, which has good prospects, is handicapped through lack of proper organization of the fishing profession, and the international disputes over territorial waters.

It is anticipated that during the Third Plan period only the most urgent needs of the sector will be met, because the removal of some of the bottlenecks referred to above require action of a more long-term nature.

4. The Third Plan, 1972–1976

The prospects regarding the future demand of local fish appear to be very good on account both of the present relatively low consumption per capita and the existence of a relatively large import bill for chilled or frozen fish. Thus, as in the case of the Second Plan, the fisheries development programme during the Third Plan period will be supply oriented.

4.1 Objectives of the Third Plan

The basic objective of the Third Plan is to increase fish production by exploiting in the most efficient way the available resources. In particular it is intended to—

(i) continue research, exploration and surveys of local stocks of fish and fishing grounds with a view to defining fisheries development potential by sector and arriving at methods of management and exploitation so that the highest sustainable yield can be obtained from local waters ;

(ii) continue with the experimentation on fish farming in fresh, brackish and sea water of suitable aquatic species with a view to defining suitable species and techniques of fish culture under local conditions ;

(iii) provide the facilities required, financial or technical, to enable fishermen and fish farmers to establish, improve or expand their activities so as to achieve the targets of the fisheries programme ; and

(iv) effect those institutional changes as are necessary to improve operating conditions in the case of trawl fishing and protect fish resources.

4.2 Targets of the Third Plan

The primary target of the Third Plan is to increase gross output of fish from £448,000 in 1971 to £718,000 in 1976 (at 1970 prices). This implies an annual rate of growth of 9.9%. Increased production will be the result of a more intensive and systematic use of known fishing grounds by bigger and more mechanized fishing boats capable of working more efficiently and for more hours at sea, of the expansion of the fishing fleet as well as of the application of the results of the investigations and research carried out by the Fisheries Department, especially with regard to fresh water fish culture. The production target may be easily surpassed if the expanded trawler fleet is allowed to fish on favourable terms in international waters.

The anticipated contribution of the various sub-sectors of fisheries to the overall target of gross output is shown in Table 31.

Gross Output of Fisheries, 1971 and 1976

(*At Constant* 1970 *Prices*)

TABLE 31

	1971		1976	
	£000's	% to Total	£000's	% to Total
1. Inshore Fishing	321	71.6	464	64.6
2. Trawl Fishing	105	23.5	149	20.8
3. Fish Culture	6	1.3	80	11.1
4. Sponges	16	3.6	25	3.5
Total	**448**	**100.0**	**718**	**100.0**

Source : Planning Bureau.

The planned targets of output indicate a move towards a more diversified composition of output, which is a desirable change in view of the risks involved in certain fishing operations. The traditional fields of inshore and trawl fishing are expected to lose ground in favour of new fields like fish culture which has been developed in recent years. Inshore and trawl fishing, however, will still remain the most important sectors and the policies and projects to be implemented over the Third Plan period should continue to accord them a high priority.

The size of the output of inshore fishery by the end of the Plan period is anticipated to be 1,100 tons. In the case of trawl fishing the Plan target of output (657 tons) may be surpassed, if it becomes possible to secure for the trawler fleet new fishing grounds in international waters. Another favourable consequential effect of this will be that trawlers would need to spend less time in inshore waters, fishing in competition with the small boat owners.

The production of trout from inland fish culture is estimated to be close to 100 tons in 1976. This level of production will be reached assuming that the private sector will enter the trade on a large-scale. Other products, such as oysters, shrimps etc. may also eventually be produced if the experiments yield meaningful results prior to 1976, but this source has been ignored in setting the above targets.

Finally, the production target of sponges represents the anticipated production of experimental sponge culture work as well as sponge fishing. Commercial production of sponges could be forthcoming after 1976 if experiments prove successful. Also no allowance is made for fish catch of pelagic species as the relevant research work is still in its preliminary stage and is not expected to yield results before the end of the Plan period.

4.3 Means for Attaining the Objectives and Targets of the Plan

The attainment of the above objectives and targets will be pursued through a variety of measures, schemes and projects aiming at facilitating and encouraging the private sector to expand its activities. The Government fisheries development programme encompasses the following :

(i) Research, Investigations and Surveys

The primary aim of the research programme to be undertaken during the Third Plan period will be the collection of information relating to the marine resources of the Island. The direction of the future development of inshore and local trawl fishery, of the sponge fishing and possibly of pelagic fishery will depend to a large extent on this type of work. Individual research projects include oceanography and hydrography, survey and mapping of sponge beds and sea bed morphology, stock assessment and management, marine biology, exploratory and light fishing, experiments on fishing gear modernization, water pollution etc. The research programme will be facilitated following the recent acquisition of a research vessel.

(ii) Construction of Fishing Shelters

The programme for the construction of fishing shelters will be continued during the Third Plan period to cover the most urgent needs. The acceleration of the programme to cover other areas will depend on the need for such facilities which will have to be established.

(iii) Fish Culture

This field of fisheries possesses a significant potential in Cyprus. Fish farming is a branch of fisheries in which input and output can be directly controlled without the risks involved in sea fishing. Hence, the experimental fresh water fish culture programme will be continued. Fish culture experiments will involve work relevant to the further development of trout farming and to other new species, possibly salmonid fish. Further experimental work will be carried out on marine farming with molluscan species, crustacea, grey mullet and breams, bass and other similar species. Fish culture in brackish waters may also be attempted if found feasible. Finally, inland fisheries for sport fishing will be expanded to cover more dams and rivers and more species.

(iv) Loan Financing and Subsidization Schemes

The present scheme of loan financing at subsidised interest rates will be continued. The scheme will be extended to cover, besides trawl and inshore fishing, trout farming. The subsidisation scheme for the purchase of improved equipment for the inshore fishing industry and the distant water subsidy for the trawler fleet will also be continued.

(v) Legal and Other Measures

The most important measures envisaged concern trawl fishing. These measures include extension of the closed season for trawl fishing in inshore waters so as to make fishing in international waters more attractive, increasing the number of trawlers allowed to fish in Cyprus so as to maintain the fishing effort, increasing the mesh size of nets for better exploitation etc.

Enforcement of existing legislation for the protection of the fishing stock will be more vigorously pursued. Efforts will be made to organize professional fishermen with a view to promoting a group insurance scheme for fishing vessels covering both trawlers and small boats. The possibility of promoting the establishment of a fishermen's cooperative will also receive attention.

4.4. Development Expenditures on Fisheries, 1972–1976

For the successful implementation of the fisheries development programme, development expenditure of the order of £550,000 has been earmarked to be allocated as indicated in Table 32.

Development Expenditures on Fisheries, 1972–1976
(£)

TABLE 32

	1967–71 Realized	1972–76 Planned
1. Research, Investigations and Surveys (incl. Purchasing of Equipment)	70,685(¹)	60,000
2. Construction of Fishing Shelters	70,093	80,000
3. Other Projects (incl. Fish Culture and Subsidies) ..	37,365	85,000
4. Administration, Technical Assistance, etc.	104,435	240,000
5. Loans for Fisheries Development	31,953	85,000
Total	**314,531**	**550,000**

Source : Planning Bureau.

(¹) Includes expenditures for the purchase of a research vessel.

CHAPTER 10

WATER RESOURCES

1. Introduction

Cyprus is an Island with a semi-arid climate and an average annual rainfall of about 19 inches. Rainfall fluctuates from year to year and between months within a year as well as between regions. In a wet year it may rise up to 27 inches and in a dry year it may be as low as 10 inches. The bulk of this rainfall (82%) is normally confined to the months from November to April, while December and January, the wettest months, receive 45% of the total annual rainfall in an average year. In general, there is much more rainfall in the mountain areas than in the central plain. The long-run average for the highest point in Cyprus is 40.5 inches and for the Morphou Bay 11.0 inches.

The total quantity of rainfall amounts to approximately 4,600 m.cu.m.(¹) of water in an average year. The greater part, about 64%, is lost through evaporation and evapotranspiration from non-cultivated areas and 20% is used up by cultivated areas. Water used through dams, springs or boreholes comprises only about 9% of average rainfall. Finally, the surface losses to the sea amount to about 7% of total rainfall.

Recent studies conducted by the Cyprus Water Planning Project reached the provisional conclusion that the current usage of surface and groundwater for all purposes is about 385–400 m.cu.m. per annum and that this quantity could be increased by 30–50% by the end of the century on the basis of present knowledge and conditions. This means, *inter alia*, that unless measures for the proper conservation, development and utilization of water resources continue on an expanded scale, a situation will soon be reached in which water will constitute a very severe constraint for the further development of all sectors of the economy.

It is for this reason that the development and conservation of water resources has attracted and will continue to attract so much attention in the whole development effort.

2. Review of the Progress Made during the Second Plan

2.1 Objectives and Targets of the Second Plan

The three main objectives to which the Plan was designed to lay greater emphasis were :

Firstly, it aimed at a shift from a more or less piecemeal approach towards integrated development and control of water resources on an Island-wide basis. In this connection, the Plan laid emphasis on the carrying out of surveys and explorations with a view to accumulating a better knowledge of water resources and assessing the additional water potential ; and this for the purpose of enabling the formulation of a longer-term Master Plan. Related to this, the Plan envisaged the conduct of feasibility studies for the purpose of augmenting water resources through various artificial means.

(¹) Million cubic meters.

Secondly, in anticipation of the finalization of the Master Plan, the Plan provided for the completion of all continuing projects (dams and other storage works) and the initiation of a number of new projects not likely to be affected by the Master Plan as well as for the continuation of the programme of minor irrigation works.

The third aim encompassed water conservation through pumping control and regulation of the main aquifers by enforcing the Water Supply (Special Measures) Law, the implementation of certain recharge projects and the Water Use Improvement Project as well as the introduction of institutional changes necessary to promote co-ordinated water management and development.

2.2 Progress in Attaining the Plan Targets and Objectives

2.2.1 Surveys, Investigations, Studies and Experiments

Water development projects and more particularly irrigation schemes, are very expensive undertakings and, therefore, particular attention should be paid to the priority ranking of projects, and to project formulation. On the other hand, integrated water development and management require ample information and data pertaining to water resources. For these reasons, a series of surveys, investigations and experiments were conducted or sponsored during the post-Independence period. The most important of these are analysed in the following paragraphs :

The Groundwater and Mineral Resources Survey Project : The Groundwater and Mineral Resources Survey Project started in April, 1963 as a U.N. Special Fund Project and was completed in 1969. In the field of groundwater resources, the Project carried out hydrological studies on the most important aquifers of the Island as well as in a number of other areas. As a result of this work and the continuous hydrological studies carried out by the Water Development Department, considerable knowledge has been acquired about the situation of the aquifers, the potentialities for additional water supply and the degree of overpumping.

The Water Planning Project : The Water Planning Project was initiated in 1967 in cooperation with the U.N. Special Fund. The main objectives of this project were—

(i) to undertake a reconnaissance survey of the Island's watersheds with a view to establishing an inventory of the existing underground and surface water resources and to estimate future water requirements for domestic use, industry and agriculture ;

(ii) to identify possible water development projects ;

(iii) to conduct detailed feasibility surveys for selected watersheds in the Paphos area.

All the above results were to be utilized in drawing up a Master Plan for the development and management of water resources.

As far as the inventory of water resources is concerned, the Survey concluded that out of the potential water resources of 960 m.cu.m. per annum only 536–605 m.cu.m. could be economically exploited possibly by the end of this century. This means that the possibilities for augmenting the presently utilized water resources will be limited to an additional 133–202 m.cu.m./year over the thirty-year period. The quantities of potential water resources, the present utilization pattern and the limits for future water development are shown in Table 1.

Regarding the utilization of this additional water, it has been estimated that, if it were used for agriculture, irrigated land, which was about 302,000 donums in 1971, would have increased in the long-run by 100,000–160,000 donums. In such a case, the rising water requirements of the main towns would have to be satisfied through artificial methods (e.g. desalination). On the other hand, if no such methods were introduced for town water supplies, then 68–86 m.cu.m./year would have to be met from natural resources and, thus, only 47–134 m.cu.m./year would be available for agriculture (including 45 m.cu.m./year already utilized in a more or less satisfactory way).

Potential Water Resources, Present Utilization and Future Development

TABLE 1

(m.cu.m./a)

Regions	Potential water resources (surface and ground-water) (*a*)	Present Utilization(1)				Economically expl. water potential (excl. present utilization) (*f*)	Water utilization at full develpt.(2) of water resources (*e*) & (*f*) (*g*)	Water resources not economically expl. under present knowledge (*a*)-(*g*) (*h*)
		Plantations & seasonally irrig. crops (*b*)	Spate irrigation crops (*c*)	Town and village water supplies (*d*)	Total (*e*)			
1. Paphos ..	230	21	7.5	5.9	34.4	45–60	79.4–94.4	135.6–150.6
2. Limassol	180	34	7.0	11.5	52.5	50–70		
3. Larnaca ..	105	12	2.0	4.2	18.2		120.7–140.7	144.3–164.3
4. Morphou–Tylliria–Polis ..	280(3)	152	13.0	13.5	178.5	38–72(4)	216.5–250.5	29.5–63.5
5. Messaoria	55	30	10.5	9.5	50.0	—	50.0	5.0
6. Karpass ..	45	2	—	1.5	3.5	—	3.5	41.5
7. Kyrenia ..	40	15	—	1.9	16.9	—	16.9	23.1
8. South Eastern Messaoria	25	45	—	4.0	49.0	—	49.0	—24.0
Total ..	**960**	**311**	**40.0**	**52.0**	**403.0**	**133–202**	**536–605**	**355–424**

Source : 1. Water Development Plan & Economic Appraisal, Technical Report, U.N. Development Programme—F.A.O. 2 Cyprus Water Planning Project, Interim Report, Nicosia, July, 1970.

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(1) Figures on present utilization refer to 1969.

(2) Full development of the economically exploitable water potential is expected to be attained by the end of the century.

(3) Of which 165m.cu.m./a in Morphou area and the remaining 115m.cu.m./a in Tylliria–Polis area.

(4) Within this region, the Tylliria area is the most promising in terms of exploitable water potential.

Work on the other aspects of the Survey has also been done. However, more detailed investigations need to be made to verify the above preliminary results and to translate the general proposals into a Master Plan, including the formulation of specific projects with designs of structures, investment and operation costs and benefits. For this purpose two feasibility studies have been undertaken on the watersheds in the Paphos and Limassol-Akrotiri regions.

Other Activities : The Department of Water Development continued its surface hydrological observations, the measuring and recording of streamflows, the measuring of spring discharges, the sampling for chemical bacteriological and sediment load analysis, etc. Prospecting drilling was also continued in most cases to secure water for certain projects, either for domestic water supplies or for irrigation.

Desalination : In view of the present and anticipated scarcity of surface and underground water, studies and experiments on the feasibility of augmenting water supply through artificial means (desalination, artificial rainfall and evaporation control) were carried out during the Plan period.

Feasibility studies on water desalination carried out during the First Plan period revealed that the cost of desalinated water would be too high. Ever since the Government has kept a close watch on this issue, especially in view of the possibility of technological innovations which would have rendered such a project an economic proposition. A number of studies on desalination have also been carried out under the Water Planning Project and independently, including the possibility of establishing a combined power/water complex to supply both electricity and desalinated water.

Artificial Rainfall : Cloud seeding operations were carried out by a foreign firm during the spring and autumn of 1970. A total of 23 reconnaissance flights and 9 operational flights were completed. The device used was based on the sudden introduction into the cloud of high concentration of silver iodide freezing nuclei. The results of this experiment were inconclusive due to the fact that no proper control stations were established to enable accurate statistical analyses to be made. Furthermore, for such cloud seeding operations to be conclusive, a longer period of experimentation is required and accurate instrumentation is also necessary. As cloud seeding is a complex and intricate subject, before proceeding further the Government applied to the World Meteorological Office for expert advice. As a result a W.M.O. expert visited Cyprus and submitted his recommendations.

Evaporation Control from Open Reservoirs : Experiments on the control of evaporation were carried out at the Yermasoyia and Prodhromos reservoirs. Through the application of a special retardant on the water surface, evaporation was reduced by approximately 11,400 cu.m. within a period of 102 hours at the end of July. The experiments will continue during the Third Plan period.

2.2.2 Water Storage and Irrigation Works

(i) MAJOR IRRIGATION WORKS

Pending the finalization of the Water Master Plan, the Second Plan gave priority to projects which had already started but had not been completed during the First Plan period and to the building of new dams the construction of which was unlikely to prejudice the formulation of the Master Plan.

Thus, work carried out during the Plan period was related to the completion of the Yermasoyia dam, the largest dam in Cyprus with a storage capacity of 13.5 m.cu.m.; the completion of the distribution system of the Polemidhia dam ; the construction of the Syngrassi recharge dam ; the continuation of work on the distribution systems at the Argaka–Magounda, Kiti–Trimithios, Pomos, Ayia Marina, Kalopanayiotis and Mavrokolymbos dams. Work also started on the building of two new dams, one at Palekhori and one at Massari.

During the Second Plan period the irrigation effect of major irrigation works resulted in an increase of irrigated land by 5,100 donums. Experience has shown that there is a time lag in the utilization of stored water, which means that major schemes become fully effective only a number of years after their completion. The technical and institutional factors which are responsible for this delay are under scrutiny.

As a rule, the cost of construction of major irrigation projects is borne by Government. The water charge levied on the beneficiaries is calculated to recover 40% of the weighted average cost of water per cubic meter of all Government financed dams. The responsibility for the management, operation and maintenance of all Government waterworks in each District is entrusted to District Water Boards composed of Government officers under the chairmanship of the District Officer.

(ii) MINOR IRRIGATION WORKS

The programme for the construction of minor irrigation works continued during the Second Plan period. These works comprise small tanks and canals, concrete channels or conveyor pipelines, river intakes and pumping schemes aiming at the utilization in the most efficient way of water from springs, brooks, rivers and boreholes for the benefit of farmers who organize themselves into Irrigation Divisions or Associations. Small recharge works also come under this classification.

The irrigation effect of these projects during the Second Plan period is presented in Table 2.

Irrigation Effect of Minor Works, 1967–1971
(Donums)

TABLE 2

	Permanent Crops	Seasonal Crops	Total Area
Irrigation Schemes	2,953	899	3,852
Recharge Schemes	4,823(1)	—	4,823(1)
Total	**7,776**	**899**	**8,675(1)**

Source : Department of Water Development.

(iii) TOTAL IRRIGATED LAND

Irrigated land amounted to 268,000 donums in 1966 representing 11% of the total cultivated area. In 1971 total irrigated land was estimated at 302,000 donums or about 12% of cultivated land.

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(1) Includes area affected by lining of canals.

The various irrigation works executed by Government during the Second Plan period resulted in an increase of irrigated land by 13,775 donums. Out of these, 5,100 donums are attributed to major works and 8,675 donums to minor works, including recharge schemes. A comprehensive picture of the major storage dams and major and minor recharge dams built by Government during the period 1960–1970 is presented in Fig. 1.

2.2.3 Domestic Water Supplies

Apart from irrigation, one of the main objectives of the Second Plan was to maintain and expand the supplies needed to meet the water requirements for domestic use, industry and tourism. In this connection, the supply of water needed for human consumption received first priority. During the Plan period an amount of £2,554,000 was spent on domestic water supplies representing about 36% of total water development expenditure.

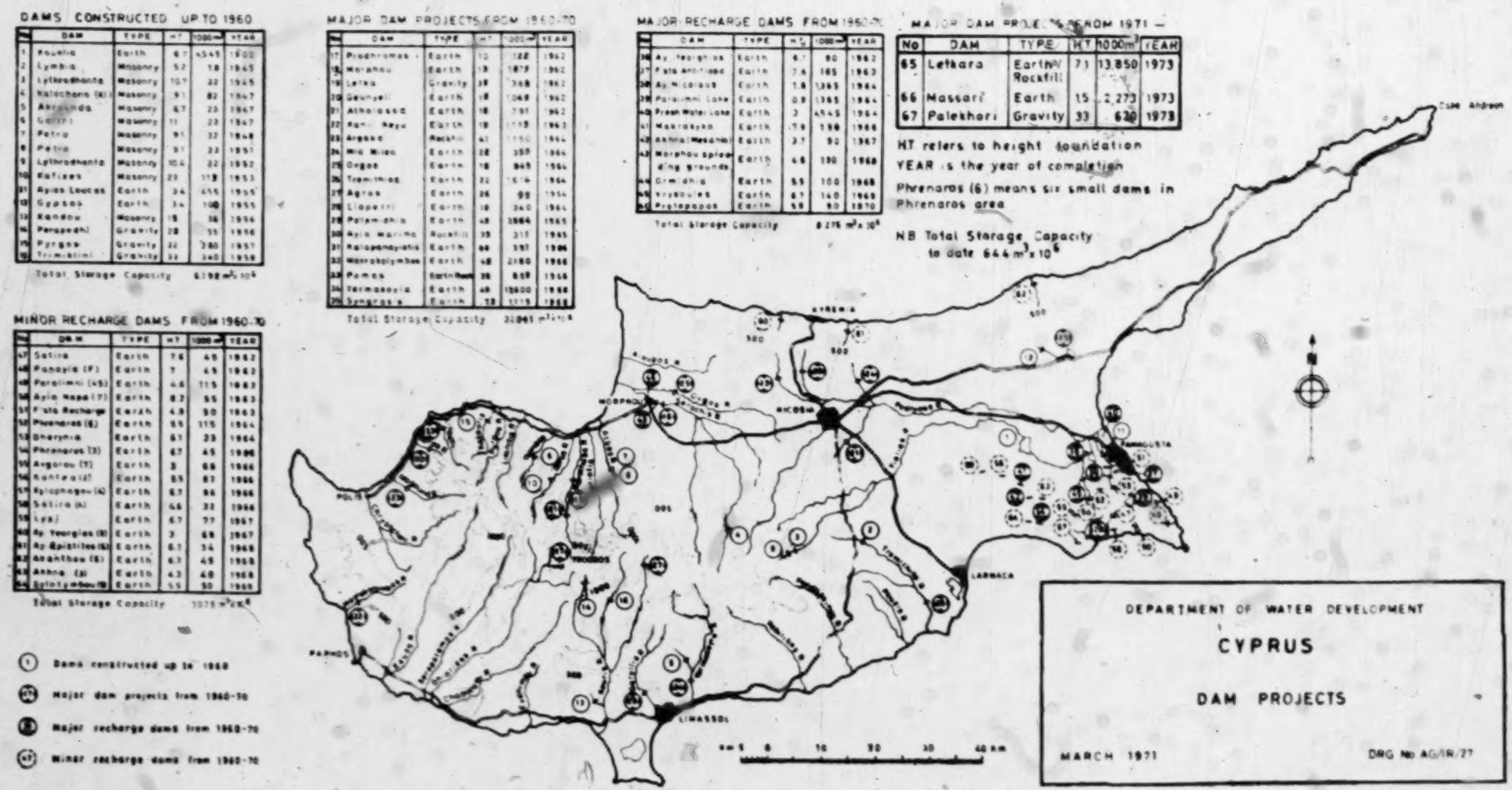
(i) TOWN WATER SUPPLIES

An amount of £1,330,200 was spent on various schemes connected with the water supplies of the main towns, as explained in subsequent paragraphs :

Nicosia and Suburbs : Nicosia and the Suburbs receive their water supplies mainly from the Morphou Bay Scheme which was completed in 1962. Shortage of water supply was observed only in the summer of 1970 and restrictions on water consumption had to be imposed. At present, the highest safe production of the various sources of supply is estimated to be 21,000 cu.m. daily, whereas, the highest daily consumption is estimated to be 27,000 cu.m. A small scheme was completed by the end of 1971 which provides an additional quantity of 1,500 cu.m. daily. In addition, studies have been made for the installation of " boosters " on the Morphou Bay Scheme main pipeline with a view to providing an additional quantity of 10,000 cu.m. per day. The amalgamation of the three authorities administering the Nicosia and Suburbs water supply is currently under consideration and the jurisdiction of the Nicosia Water Board has been extended to cover the areas within the walled city so as to coordinate the modernization of the distribution system with work on the sewerage system.

Famagusta : To solve the Famagusta water problem, the first phase of a new water supply scheme intended to cater for the needs of the town on a long-term basis was initiated in 1970. This phase included the installation of a pipeline for the conveyance of water from boreholes in the area around Khirokitia to the reservoirs at Phrenaros. Work on the second phase of the scheme, which consists of the construction of a major dam at Lefkara and the erection of a water treatment plant, started in 1971. The capacity of the dam and of the main conveyor is of 22,500 cu.m. daily and it is expected that finally it will be possible to convey water to Famagusta at the rate of 18,000 cu.m. per day. To-day's highest consumption amounts to 10,000 cu.m. daily.

Fig. 1



DAMS CONSTRUCTED UP TO 1960

No	DAM	TYPE	HT	1000 m³	YEAR
1	Kouklia	Earth	6.7	4545	1900
2	Lymbia	Masonry	5.2	18	1945
3	Lythrodhonta	Masonry	10.7	22	1945
4	Kalochorio (K)	Masonry	9.1	82	1947
5	Akrounda	Masonry	6.7	23	1947
6	Galini	Masonry	11	23	1947
7	Petra	Masonry	9.1	32	1948
8	Petra	Masonry	9.1	23	1951
9	Lythrodhonta	Masonry	10.4	22	1952
10	Kafizes	Masonry	23	113	1953
11	Ayios Loucas	Earth	3.4	455	1955
12	Gypsos	Earth	3.4	100	1955
13	Kandou	Masonry	15	36	1956
14	Perapedhi	Gravity	28	55	1956
15	Pyrgos	Gravity	22	280	1957
16	Trimiklini	Gravity	33	340	1958

Total Storage Capacity 6.192 m³x10⁶

MAJOR DAM PROJECTS FROM 1960-70

No	DAM	TYPE	HT	1000 m³	YEAR
17	Prodhromos	Earth	13	122	1962
18	Morphou	Earth	19	1879	1962
19	Lefka	Gravity	35	368	1962
20	Gounyeli	Earth	18	1069	1962
21	Athalassa	Earth	18	791	1962
22	Kanli Keuy	Earth	19	1193	1963
23	Argaka	Rockfill	41	1150	1964
24	Mia Milea	Earth	28	359	1964
25	Ovgos	Earth	18	849	1964
26	Tremithos	Earth	22	1616	1964
27	Agros	Earth	26	99	1964
28	Liopetri	Earth	18	360	1964
29	Polemidhia	Earth	45	3864	1965
30	Ayia Marina	Rockfill	33	311	1965
31	Kalopanayiotis	Earth	44	391	1966
32	Mavrokolymbos	Earth	45	2180	1966
33	Pomos	Earth-Rockfill	38	859	1966
34	Yermasoyia	Earth	49	13600	1968
35	Syngrasis	Earth	13	1119	1968

Total Storage Capacity 32.041 m³x10⁶

MAJOR RECHARGE DAMS FROM 1960-70

No	DAM	TYPE	HT	1000 m³	YEAR
36	Ay. Yeorghios	Earth	6.7	90	1962
37	Fota Anti-Flood	Earth	7.6	165	1963
38	Ay. Nicolaos	Earth	1.8	1365	1964
39	Paralimni Lake	Earth	0.9	1365	1964
40	Fresh Water Lake	Earth	3	4545	1964
41	Makrasyka	Earth	7.9	190	1966
42	Achna (Mesaoria)	Earth	3.7	90	1967
43	Morphou spreading grounds	Earth	4.6	190	1968
44	Ormidhia	Earth	5.5	100	1968
45	Vrysoulles	Earth	6.7	140	1969
46	Protopapas	Earth	5.8	90	1970

Total Storage Capacity 8.275 m³x10⁶

MAJOR DAM PROJECTS FROM 1971 –

No	DAM	TYPE	HT	1000m³	YEAR
65	Lefkara	Earth/ Rockfill	71	13,850	1973
66	Massari	Earth	15	2,273	1973
67	Palekhori	Gravity	33	620	1973

HT refers to height foundation

YEAR is the year of completion

Phrenaros (6) means six small dams in Phrenaros area

NB Total Storage Capacity to date 64.4 m³x10⁶

MINOR RECHARGE DAMS FROM 1960-70

No	DAM	TYPE	HT	1000 m³	YEAR
47	Sotira	Earth	7.6	45	1962
48	Panayia (F)	Earth	7	45	1962
49	Paralimni (45)	Earth	4.6	115	1963
50	Ayia Napa (7)	Earth	8.2	55	1963
51	Fota Recharge	Earth	4.3	90	1963
52	Phrenaros (6)	Earth	5.5	115	1964
53	Dherynia	Earth	6.1	23	1964
54	Phrenaros (3)	Earth	6.7	45	1966
55	Avgorou (7)	Earth	3	68	1966
56	Kontea (2)	Earth	5.5	82	1966
57	Xylophagou (4)	Earth	6.7	86	1966
58	Sotira (6)	Earth	4.6	32	1966
59	Lysi	Earth	6.7	77	1967
60	Ay. Yeorgios (8)	Earth	3	68	1967
61	Ay. Epiktitos (5)	Earth	6.1	34	1968
62	Akanthou (6)	Earth	6.1	45	1968
63	Athna (3)	Earth	4.3	40	1968
64	[illegible] (9)	Earth	5.5	50	1969

Total Storage Capacity 1.075 m³x10⁶

① Dams constructed up to 1960

㉒ Major dam projects from 1960-70

㊱ Major recharge dams from 1960-70

㊼ Minor recharge dams from 1960-70

DEPARTMENT OF WATER DEVELOPMENT

CYPRUS

DAM PROJECTS

MARCH 1971

DRG No AG/IR/27

Larnaca : The water supply system of Larnaca was modernized during the period 1965–1967 and the Larnaca Water Board was established in 1965. A three-stage scheme was initiated during the period of the First Plan designed to meet the town's water supply requirements over a long time. The two stages were completed by 1966. The third stage involving the replacement of all " saccorafia " with water meters and new piping facilities was completed in 1967. At first the town enjoyed a satisfactory water supply, but it has been found that during dry years the yields of the boreholes from which the town obtains its supply, are low and rationing had to be imposed during the summer. In the meantime, plans are being prepared to meet the existing and future water requirements of the town from the sources of the Famagusta water supply scheme described above.

Limassol : The water supply of this town was supplemented at the beginning of the Second Plan and ever since it has met the demand. The highest daily consumption has so far reached the amount of 16,000 cu.m.

Paphos and Kyrenia : The water supply of Paphos and Kyrenia was maintained at satisfactory levels during the Plan period.

(ii) VILLAGE WATER SUPPLIES

A total amount of £1,223,800 was spent during the Second Plan period on village water supply works. The progress achieved during the First and Second Plan in this field is depicted in Table 3. While in 1961 there were 69 villages without piped water supply, this number dropped to 4 in 1966 and by 1971 all villages were provided with piped water supply. The number of villages with unsatisfactory water supply, i.e. less than 20 gallons per person per day, decreased from 200 in 1961 to 86 in 1966 and 51 in 1971. Thus, by 1971, 577 villages were provided with satisfactory water supply as against 538 villages in 1966 and 359 in 1961. During the Second Plan period 102 additional villages were provided with house-to-house water connections.

Village Water Supply, 1961, 1966 and 1971

(Number of Villages)(1)

TABLE 3

	1961	1966	1971
No Piped Supply	69	4	—
Unsatisfactory Supply	**200**	**86**	**51**
Public Fountains	200	79	46
House-to-house Connections	—	7	5
Satisfactory Supply	**359**	**538**	**577**
Public Fountains	228	237	174
House-to-house Connections	131	301	403
Total	**628**	**628**	**628**

Source : Department of Water Development.

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(1) Figures are based on the 1960 Population Census. Minimum satisfactory water supply equal to 90 lt./head/day (20 gals./head/day).

All village water supply schemes were executed by the Government Water Development Department. The schemes are administered by Village Water Commissions operating under the supervision and guidance of the District Officer of the District concerned. As a rule Government subsidizes the cost of each scheme by 50% ; the balance constitutes the village contribution and is usually provided through Government loans. The cost for the provision of a house-to-house service over and above the village standard scheme, is borne by the villages and the cost of the service pipes for the house connections is borne by the consumers themselves.

(iii) INDUSTRY AND SERVICES

The water requirements for industry and services were covered through the town and village water supply schemes. Areas with tourist and industrial development potential received priority. Satisfactory water supply was secured for the industrial estates and for tourist projects implemented during the Plan period.

2.2.4 Water Conservation and Water Use Improvement

(i) WATER CONSERVATION

During the First and the Second Plan periods there has been an enormous expansion of irrigated agriculture based, ***inter alia***, on the utilization of underground water. Statistical data on irrigated crops indicate that during the Second Plan the irrigated area increased by 34,000 donums. Since the combined irrigation effect of major and minor works was 13,775 donums, it follows that additional irrigation of about 20,000 donums was made possible through pumping from aquifers. Uncontrolled extraction of water beyond the rate of replenishment has the result of gradually depressing the groundwater level. The consequence of this is the drying up of certain springs and gravity chain of wells and sea water intrusion.

The Government has taken all necessary measures to protect the aquifers. Such measures included the construction of recharge dams, control of pumping and overextraction and the application of the Water Use Improvement Project. Some of these efforts have met with limited success.

Replenishment of groundwater : As mentioned earlier, both major and minor recharge dams were constructed during the First and the Second Plan periods. Although these works had a beneficial effect, they could not compensate for the vast overextraction which has taken place.

Pumping Control : Two approaches were initiated during the First Plan. The Water Supply (Special Measures) Law was enacted in 1964 and amended in 1965. This Law empowers the Government to declare a critical area as controlled area, to restrict the drilling, construction, widening or deepening of wells, to require the installation of water meters and to prescribe the quantities and utilization of water which may be taken from any well. Another Law, the Citrus Groves Survey and Registration

Law, was enacted in 1966. This law empowers the Government to control the cultivation of new citrus plantations through the issue of licences, especially in critical water areas. For various reasons, these Laws have not so far been effectively enforced. A reappraisal of the situation appears to be called for.

(ii) WATER USE IMPROVEMENT

The objectives of the water use improvement project are described in the Chapter on Agriculture. During the Second Plan period improved irrigation systems were installed covering an area of about 24,000 donums irrigated from boreholes and resulting in a net saving of 8.5 million cubic meters of water. In addition, an improved irrigation system was installed in the area irrigated from Kalopanayiotis dam covering 246 donums and work has already started in areas to be irrigated from Mavrokolymbos, Argaka–Magounda and Yermasoyia dams.

For a number of reasons, at the initial stages at least, the response from farmers was not satisfactory and the pace of implementation of the project was rather slow. Inadequate enforcement of the Water Supply (Special Measures) Law reduced the urgency on the part of farmers to improve irrigation efficiency. Other reasons included the lack of experienced personnel during the initial stages, and the long-term nature of land consolidation which often has to precede the installation of improved irrigation systems. As a result, out of the amount of £1.9 million provided in the Second Plan only £0.8 mln. or about 42% was spent. During the last years of the Second Plan, the implementation of the project gained momentum, once the initial difficulties and obstacles had been overcome.

2.2.5 Legal, Administrative and Institutional Matters

In the legal field, amendments were made to the Irrigation Divisions (Villages) Law, the Irrigation (Private Water) Associations Law and the Government Waterworks Law with a view to enabling a more efficient operation of Irrigation Divisions, Irrigation Associations and Government Waterworks. The administration of major irrigation projects has been entrusted to District Water Boards. Regional Offices of the Department of Water Development were established in Famagusta, Limassol, Paphos and Morphou for better and quicker service, control and coordination. Finally, preparatory work was done for solving other institutional and administrative problems.

2.2.6 Water Development Expenditures

As shown in Table 4, Government development expenditures during the Second Plan period on water development projects amounted to £7,135,300 and on water use improvement to £832,900. The gap between overall planned and realized water development expenditure is to a large extent due to delays in the implementation of certain major projects (e.g. the Yermasoyia distribution system). Some of the delays may be attributed partly to the immense volume of work warranted by the preparation of the Master Plan, and partly to institutional difficulties which have delayed the use of water from already completed dams. A reduced rate of implementation was also observed with regard to the water use improvement project for reasons explained earlier. On the other hand, work on village water supplies necessitated the realization of more expenditures than those provided in the Plan.

Development Expenditures on Water Development and Water Use Improvement, 1967–1971

TABLE 4

(£000's)

	Planned	Realized
A. Water Development :		
Irrigation, Drainage and Dams	5,250	3,314.5
Village Water Supplies	700	1,223.8
Town Water Supplies	1,500	1,330.2
Drilling and Prospecting	250	223.0
Hydrology	100	124.4
Surveys and Investigations	100	64.8
Other (incl. Administration, Workshops, Equipment, etc.)	750	854.6
Water Development—Total	**8,650**	**7,135.3**
B. Water Use Improvement	**1,900**	**832.9**

Source : Annual Financial Reports, Annual Loan Commissioners' Reports, Planning Bureau.

3. Problems of Future Development

The ultimate objective in the field of water resources is to ensure adequate water supplies at a reasonable cost. The attainment of this objective comes up against a variety of problems and bottlenecks, as follows :—

(*a*) Overall scarcity of water due mainly to low precipitation.

(*b*) Overpumping of the aquifers.

(*c*) Another problem arises from the fact that in many cases inefficient methods of irrigation are still practised.

(*d*) Because of infrequent rainfall, irregular run-off, heavy sediment load, steep riverbeds and poor geological conditions, both on the dam sites and in the reservoirs, dam construction and water stored in dams are expensive.

(*e*) Another cost raising factor is that land in the neighbourhood of many rivers is usually steep and without enough soil cover. This either reduces the benefits from new dams or creates extra costs for land development or for the conveyance of water over long distances to more suitable land. Further cost raising factors are the delays which often occur in the utilization of water from dams once these are completed.

(*f*) Finally, there are often institutional and administrative difficulties in the way of implementing a sound water policy especially with regard to conservation and control.

4. Objectives and Targets of the Third Plan

The basic aim remains the same as in the First and the Second Plans, namely the best possible utilization and conservation of the Island's scarce water resources. The following more concrete objectives of the Third Plan follow from this basic aim—

(i) to complete all necessary major feasibility studies and to finalize a Master Plan for water development and utilization ;

(ii) to continue exploring the possibilities of augmenting the Island's water resources through artificial means and, more particularly, desalination and to proceed with project implementation having regard to the findings of the studies already undertaken ;

(iii) to achieve a more effective pumping control, regulation and replenishment of depleted groundwater resources ;

(iv) to continue and step up the effort to increase irrigation efficiencies, i.e. water conveyance, water application, water use, water storage and water distribution efficiencies ;

(v) to continue the programme for the construction of new irrigation works and the completion of projects already started, and to accelerate the pace of utilization of water from dams ;

(vi) to maintain and expand the supplies needed [illegible] meet the water requirements for domestic use, industry and [illegible]rvices ; and

(vii) to effect further legislative, administrative and ins[illegible]ial changes as are necessary for more efficient water d[illegible]ent and management.

During the period of the Third Plan, the demand for wat[illegible]se further. The growth of population as well as the increase in pe[illegible] sumption of water, the development of manufacturing industry [illegible] expansion of tourism and other services will require additional s[illegible] of water. Finally, there is always a pressing demand for more w[illegible] order to maintain and extend the irrigated area, which presently a[illegible] to a small fraction of total cultivated land.

In order to set the water demand targets for the period 1972–1976, the various water uses have been classified into two main groups, i.e. irrigation and town and village water supplies. In the former case the target of the Third Plan is to bring at least 20,000 more donums of land under irrigation. As regards domestic water supplies, the Plan provides for an increase in per capita consumption to cater for expanding needs. What was considered to be a satisfactory village water supply some years ago is no longer regarded satisfactory. During the Third Plan period the target will be to secure to as many villages as possible water at the rate of 30 gallons per head per day. With regard to town water supplies the target will be to maintain and even increase the present rate of 50 gallons per head per day.

5. Means for Attaining the Objectives and Targets of the Plan

5.1 Surveys, Explorations and Studies

5.1.1 Hydrogeological Investigations and Drilling

During the Third Plan period hydrogeological studies and drilling, which have gained increased impetus following the implementation of the Groundwater and Mineral Resources Survey, the Water Planning and other projects, will be continued to cover areas where minor aquifers exist and which have only been covered by reconnaissance studies. Cyprus, with its semi-arid climate, cannot rely solely on surface waters, especially in view of the very high construction and other costs of water storage works. Thus, groundwater resources, which can be exploited at a relatively low cost, are of vital importance for the solution of the country's water problems and as such they should be developed and preserved. The preservation of these resources calls for accurate knowledge of the hydrogeology of the aquifers which would indicate the methods of exploitation and the management pattern for maximum output as well as the amount which could be safely extracted every year. On the other hand, drilling for water should continue both in order to secure sources for various water projects as well as for domestic and irrigation uses and in order also to identify unknown aquifers. Among the areas, which may be investigated, are the Troodos area, where precipitation and geological structure suggest the possibility of striking water at depth and areas covered by fissured rocks, such as the limestones of the Kyrenia range and the chalks and gypsum deposits of the Limassol–Larnaca areas.

5.1.2 Completion of the Master Plan

As mentioned earlier, one of the main objectives of the Water Planning Project was to pave the way for the preparation of an Island-wide Master Plan for water development and management, utilizing also such information and experience as had been gained through other investigations. In this connection, two detailed feasibility studies have already been undertaken on the watersheds in the Paphos and the Limassol–Akrotiri regions. These studies are expected to be ready during the early stages of the Third Plan. A third study on the development of the water resources in the Morphou–Tylliria area has also been undertaken. Finally, the feasibility of conveying surplus water from the Paphos–Limassol regions to the south-eastern part of the Island will also be studied. All these detailed feasibility studies will be used for drawing up a final version of an overall plan as well as for the initiation of new water projects and the introduction of other water measures.

5.2 Artificial Means for Augmenting Water Resources

In view of the scarcity of conventional water sources, the possible use of artificial means for increasing water supplies, mainly, through desalination and cloud seeding, has acquired more importance.

5.2.1 Desalination

In the series of studies carried out on the feasibility of increasing water through desalination, the most recent study has examined the conjunctive use of desalination with conventional sources of water supply as well as the integration of desalination with electricity generation. The recommendations of the study, especially those concerning the installation of a pilot desalting unit based on multiple effect distillation, are under consideration.

5.2.2 Artificial Rainfall

The feasibility of augmenting rainfall through the cloud seeding process will be further investigated during the Plan period. The possible course of action will consist of studies of cloud physics, statistical investigations and measurements of the microstructure of the clouds to be undertaken over a period of one year. Full cloud seeding operations will depend on the results of these preliminary investigations.

5.2.3 Sewage Water Recovery

No sewage recovery works have been carried out in Cyprus as yet because of the fact that sewage schemes for the larger towns did not exist. The design of the two sewage systems, one in Nicosia and one in Famagusta, now under construction, provides that the effluent water would be treated and used for irrigation.

5.3 Water Conservation and Water Use Improvement

5.3.1 Water Conservation

As mentioned previously, overpumping in certain areas has resulted either in the gradual drying up of wells or in sea-water intrusion. So far, a number of critical areas have been declared as " controlled areas " under the Water Supply (Special Measures) Law and meters have been installed on private boreholes for the measurement and control of extracted water. Unfortunately, mainly because of the ineffective enforcement of the law, the situation has not improved. Efforts exerted by Government to restore the water balance through the construction of various recharge schemes and to improve water use efficiency have been more than counterbalanced by overpumping and illegal drilling in certain areas. The reasons for the unsatisfactory enforcement of the law will be carefully analysed and remedial action will be taken during the Third Plan period. At the same time, increased emphasis will be placed on the implementation of recharge schemes and the further expansion of the water use improvement project and the irrigation improvement schemes in order to enable a satisfactory replenishment of the aquifers and avoid wastage of one of the Island's scarcest resources.

5.3.2 Prevention of Water Pollution

Related to the conservation of water resources is the question of the protection of the quality of groundwater. Degradation of good quality aquifers through movements of poor quality water from adjacent or underneath contaminated aquifers can be controlled or prevented by proper well construction and proper pumping.

During the Plan period, possible poor quality aquifers will be identified through hydrological studies and analysis and measures will be taken accordingly. At the same time the present system of disposal of wastes, human and industrial, which is the main source of contamination, will be studied and remedial action, if needed, will be initiated.

5.3.3 Water Use Improvement Project

In the implementation of this project during the Third Plan period priority will be given to (*a*) areas where sea-water intrusion is taking place or is a constant threat, and (*b*) areas irrigated mainly from dams. Other irrigation improvement schemes are discussed under " minor irrigation works ".

5.4 Water Storage and Irrigation Works

Apart from measures for water conservation and water use improvement, during the Third Plan period the construction of major and minor waterworks for storing river water which in many cases now flows to the sea will be continued. It is estimated that the execution of the various schemes planned will be sufficient to meet the irrigation target set.

5.4.1 Major Irrigation Works

In the case of major irrigation works, again priority will be accorded to projects which started but were not completed during the previous five-year plan, (e.g. Palekhori and Massari dams) and to the completion of the distribution systems of dams already constructed. Pending the finalization of the three detailed feasibility studies, mentioned earlier, it is difficult to say exactly which and what type of new major projects will start being implemented. A decision will be taken on the basis of the findings of the studies. From the preliminary results, however, it appears that the exploitation of the water resources in the South Western part of Cyprus (Paphos region), which has been identified as one of the few areas with water surpluses, is an economic proposition and work will commence on the execution of the first phase of the project. Moreover, in view of the critical situation of the aquifers in the Western Messaoria region, provision has been made in the Plan for the execution of the first phase of the Tylliria-Morphou diversion scheme. Finally, during the Plan period a study will be undertaken on the feasibility of conveying water surpluses to the South Eastern part of the Island from areas with water surpluses.

5.4.2 Minor Irrigation Works

Minor irrigation works comprise all schemes used for collective irrigation operated and administered by statutory irrigation divisions and/or associations. Thus, all irrigation waters in Cyprus, except private wells and boreholes and Government controlled dams-reservoirs, come under the jurisdiction of these bodies. From the technical point of view, and particularly for planning purposes, these projects could be divided into irrigation improvement schemes, minor storage schemes, irrigation pumping schemes, small recharge projects, etc.

In view of its apparent effectiveness the programme will be continued and stepped up. The main principle underlying the selection of such schemes will be the intensive use of water at or near its source of supply combined with intensive agricultural methods and improved water use practices.

(i) IRRIGATION IMPROVEMENT SCHEMES

These works aim at the consolidation and overhauling of existing irrigation systems. The schemes are so designed as to provide, apart from the consolidation of the collector and intake systems, a complete and watertight main distribution system, preferably with pipes. In many cases the water saved in this way exceeds 50% of the flow available at the source during the summer months. The programme, however, will be proceeded with cautiously mainly because of difficulties encountered in changing old practices of water allocation by local committees and the uncertainty surrounding the application of improved water use methods.

(ii) MINOR STORAGE SCHEMES

This is a new category of schemes aiming at extending or supplementing permanent irrigation on hill villages through the storage of surplus seasonal flows of water in off-stream earth reservoirs.

(iii) SMALL RECHARGE SCHEMES

The object of these schemes is to impound flood waters in artificial reservoirs or to recharge spreading grounds. Through the infiltration of water into the aquifer the situation of the latter is improved. However, as the sites left for small recharge dams are limited, future activities will probably concentrate on larger recharge projects.

(iv) NEW PUMPING SCHEMES

These schemes are undertaken in areas with undeveloped aquifers which, unfortunately, are few. It is proposed to develop gradually the most promising Government boreholes in such areas for permanent irrigation.

(v) WESTERN MESSAORIA CONTROL PUMPING PROJECT

This project was formulated in 1970 in consultation with FAO/IBRD experts and covered, apart from Western Messaoria, the Limassol–Akrotiri region. The main idea behind the project is to establish statutory Irrigation Divisions, comprising practically all existing citrus farms irrigated from private sources, to manage new boreholes to be drilled and existing private boreholes to be appropriated for a Division. The principles underlying the project are (*a*) that pumping, conveyance and distribution systems will be improved at the same time with the improvement of on-farm irrigation techniques ; (*b*) that water allocation, supported by adequate control, will be made to individual farmers ; and (*c*) that the project will be confined to areas where a safe long-term water supply can be assured. Finally, the objectives of the project are (*a*) to eliminate existing heavy conveyance loss and reduce extraction costs ; (*b*) to supply water to individual farmers in accordance with crop needs and at a flow rate in line with optimum water requirements and improved water use practices ; (*c*) to enable the installation of large scale improved irrigation systems from a centrally supplied pressure system ; (*d*) to provide the means for effective control of extraction in line with the hydrological limitations of the aquifer ; and (*e*) to provide the irrigation infrastructure on which to graft the supply of additional surface water from areas outside the divisional boundaries.

Only marginal progress has been made so far. The implementation of the project on a large scale as an IBRD financed project has been delayed in view of existing difficulties concerning, *inter alia*, the enforcement of legislation on water control. The project will be reviewed during the Third Plan period with the object of overcoming existing obstacles and in the light of the results of the feasibility study for conveying water surpluses from other regions.

5.5 Domestic Water Supplies

5.5.1 Town Water Supplies

To ensure that the towns have adequate supplies to cope with higher norms for domestic uses, increasing population, the influx of tourists and the needs of industry in general, various schemes will be implemented or completed in the main towns during the Third Plan period, as follows :—

Nicosia and Suburbs : The capital and its suburbs are currently facing shortage of water during the summer months. Apart from the additional water supplies provided in 1971, work has already commenced for conveying another 10,000 cu.m. of water daily from the Pendayia area. This scheme when completed will solve the water problems of the town for the next 3–5 years. During the Third Plan period various alternatives will be studied in order to tap new sources which will provide adequate water on a longer-term basis. The efficiency of the distribution system will also be studied.

Famagusta : With the construction of the Lefkara dam and the installation of the treatment plant at Khirokitia, and other works it is anticipated that Famagusta will meet its water requirements until about 1985. As in the case of Nicosia, the efficiency of the Famagusta distribution system will be studied.

Limassol : The water needs of Limassol have been satisfactorily met from existing sources. For the purpose of forward planning a new scheme will be designed and executed during the Plan period, which will provide an additional quantity of 7,000 cu.m. daily, enough to meet this town's requirements until 1980.

Larnaca : It is envisaged that an amount of 4,500 cu. meters of water per day will be made available to Larnaca from the Famagusta scheme when the Lefkara dam is completed. This quantity and existing sources will satisfy the needs until 1980.

Paphos and Kyrenia : Minor schemes aiming at maintaining the Paphos and Kyrenia water supply at a satisfactory level are under consideration.

5.5.2 Village Water Supplies

The quantity of water per head which is considered satisfactory for village water supplies has been continuously increasing as a result of rising standards of living and new ways of life. Thus, while for the period 1962–66 satisfactory water supply was considered to be 15–20 gallons per head daily, it has increased to 20–30 gallons in 1971. As a result of this upward trend and the failure in many cases of boreholes from which villages are supplied, the problem of village water supplies in general is always in the forefront, despite the marked improvement effected under both the First and the Second Plans.

On the assumption that the minimum satisfactory water supply by 1976 will be 30 gallons per capita per day, the programme ahead is shown in Table 5, together with the Third Plan targets. Thus, during the Plan period increased emphasis will be placed on the provision of additional quantities of water to the already well established village water supplies network, priority being given to villages with daily supply of less than 20 gallons per head. New schemes will be initiated and completed, while existing ones will be improved by removing, as far as possible, the limitations imposed by the present system, i.e. the diminishing yields of existing sources, under-capacity of the conveyors and small storage and inadequacy of the distribution systems.

Village Water Supply in 1971, 1972 and 1976

(*No. of Villages*)

TABLE 5

	1971(1)	1972(2)	1976(2) (target)
Unsatisfactory Supply	**51**	**283**	(*a*) Supplementary water to villages with supply below 20 gallons.
Public Fountains	46	147	(*b*) Supply of 30 gallons to as many villages as possible.
House-to-house Connections ..	5	136	
Satisfactory Supply	**577**	**332**	(*c*) Metered house-to-house connection where 30 gallons can be secured.
Public Fountains	174	70	
House-to-house Connections ..	403	262	
			(*d*) Where possible supply above 30 gallons. Priority in this respect to be given to tourist and agricultural development areas.
			(*e*) Metered house-to-house systems in all 70 villages enjoying at present satisfactory supply from fountains.
Total	**628**	**615(3)**	

Source : Water Development Department.

5.6 Institutional and Legal Changes

For many years institutional and legal deficiencies as well as lack of adequate support for various measures have had adverse and/or retarding effects on the development and conservation of our water resources. As a result, the exploitation of surface waters and their proper utilization when stored had been handicapped in a number of cases whereas in other cases overpumping was taking place. During the Second Plan a series of measures were taken and a lot of preparatory work has been done. It is hoped that during the period of the present Plan further progress will be made and final solutions will be found at least to the more pressing problems.

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(1) 1971 figures are based on the 1960 Population Census. Minimum satisfactory water supply equal to 20 gallons/head/day.

(2) 1972 and 1976 figures are based on population estimates as in 1970. Minimum satisfactory water supply equal to 30 gallons/head/day.

(3) Total number of villages excluding suburbs.

5.7 Water Development Expenditures, 1972–1976

Development expenditure allocations for water development, during the Third Plan are summarized in Table 6.

Water Development Expenditures, 1972–1976

(£000's)

TABLE 6

	1972–76
A. Water Development:	
I.—WATER DEVELOPMENT DEPARTMENT :	
Irrigation, Drainage and Dams . .	7,360
Village Water Supplies . .	1,500
Town Water Supplies . .	1,400
Drilling and Prospecting . .	90
Hydrology . .	140
Surveys and Investigations . .	140
Other (incl. Administration, Equipment, etc.) . .	900
II.—GEOLOGICAL SURVEY DEPARTMENT . .	600(1)
Total . .	**12,130**
B. Water Use Improvement . .	**1,400**

Source : Planning Bureau.

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(1) Provision for the water development activities of the Geological Survey Department.

CHAPTER 11

MANUFACTURING INDUSTRY

1. Introduction

During the last decade Cyprus has unquestionably made substantial progress in its effort to develop its manufacturing sector. Value added at constant 1966 prices originating from manufacturing industry more than doubled during the 1962–1971 period, having risen from £11.0 mln. in 1961 to £24.1 mln. in 1971, i.e. by an average rate of growth of 8.2% per annum. Industrial employment expanded at a less satisfactory pace rising from 31,281 in 1961 to 36,300 in 1971. However, the pattern of development has not been uniform. During the First Plan, value added increased at an average rate of 7.1% per annum under conditions of relative price and cost stability. During the last five years (1967–1971) there was a faster growth in G.D.P. accompanied by an acceleration of industrial growth, with real value added rising at an average rate of growth of 9.2% per annum. World-wide inflation meant that manufacturing output was produced under conditions of rising prices, which undoubtedly acted as a powerful stimulus to growth. Furthermore, during the 1962–1966 period exports of manufactured goods were limited and of the traditional type, whereas in the post–1966 period priority export industries started to emerge and successfully penetrated foreign markets with new products competing mainly in terms of a price advantage. The acceleration of industrial growth exerted strong pressures on the labour market. The rate of growth of labour productivity was slower during the 1967–1971 period reflecting the different pattern of development. Until 1966 expansion of output was achieved by utilising existing capacity with little additional labour requirements. It was relatively easy import substitution period with firms managed at the family level. In the 1967–1971 boom years, rising expectations, the need to tackle difficult import substitution areas and possibly tariff protection stimulated fast expansion of new capacity with parallel increase in labour requirements, thus lowering productivity growth. However, the problem of excess capacity became acute. On the other hand the broadening of the horizons of Cyprus industry and the need to adopt complicated and sophisticated production processes focussed attention on the structural problems and raised questions of management, organization and expertise.

2. Performance of Manufacturing Industry during the Second Plan Period

2.1 Overall Performance

Manufacturing value added increased from £15.5 mln. in 1966 to £24.1 mln. in 1971, thus attaining an average rate of growth of 9.2% during the 1967–1971 period. This rate is above the average rate of growth of the economy as a whole but falls slightly short of the target set in the Second Plan, which envisaged a rate of growth of at least 10% per annum. The main reasons for the failure of manufacturing industry to attain the targets set can be attributed to the delay in the establishment or the postponement of some major projects of high value added content such as the oil refinery, the fertilizer plant, the forest industry complex and the cement asbestos plant. Had these projects been implemented by 1971 a more dynamic growth path would have been possible.

A closer look at industrial performance reveals the following :—

(*a*) The initial impetus given to industry by the devaluation of the Cyprus pound in 1967 was wiped out quickly because Cyprus industry is mostly based on imported raw materials ; furthermore, wages adjusted swiftly to the new situation.

(*b*) The incentive given by devaluation to export industries was effective primarily in the sectors with some comparative advantage, but a number of sectors were structurally unsuited to take advantage of the opportunity.

(*c*) Most importantly, however, it has become evident that growth through import substitution is becoming a very difficult process within the context of Cyprus reality.

Despite the above remarks, the fact must be conceded that substantial progress has been achieved. Industrial output has become more diversified, new projects were implemented, exports expanded and generally industrial performance was creditable and progress was faster than that achieved during the First Plan. In what follows the performance of the manufacturing sector is examined in more detail.

2.2 Performance of Particular Groups

Table 1 contains statistics on gross output, value added and exports of the various manufacturing sub-sectors for the years 1966 and 1971.

Gross Output, Census Value Added and Exports of Manufacturing Sectors, 1966 and 1971(¹)

TABLE 1

(*At Current Prices—£000's*)

Sector	Gross Output		Value Added		Exports	
	1966	1971	1966	1971	1966	1971
20 Food	15,181	21,884	2,898	5,262	1,499	3,034
21 Beverages	5,349	9,003	2,898	4,313	2,284	3,854
22 Tobacco	2,124	2,678	559	737	167	185
23 Textiles	889	2,210	415	1,085	37	2,214
24 Footwear & Clothing	5,188	9,714	2,437	4,459	101	
25 Wood & Cork	643	1,565	263	629	2	10
26 Furniture & Fixtures	1,868	3,233	822	1,636	1	5
27 Paper & Paper Products	216	1,274	57	380	65	214
28 Printing	1,285	2,314	736	1,372	18	6
29 Leather Products	428	1,029	127	316	284	391
30 Rubber Products	300	587	135	287	—	—
31 Chemicals	1,052	2,549	468	1,023	17	80
33 Non-Metallic Minerals	2,271	5,333	1,370	2,901	133	195
35 Metal Products	1,820	3,638	837	1,560	2	194
36 Machinery (non-electrical)	783	1,361	502	859	27	74
37 Electrical Machinery	195	440	120	252	—	4
38 Transport Equipment	1,514	2,622	1,102	1,987	—	—
39 Miscellaneous	901	2,291	336	892	13	111
Total	**42,007**	**73,725**	**16,082**	**29,950**	**4,650**	**10,571**

Source : Department of Statistics and Research.

(¹) Excluding Cottage Industry.

Food Industry

Industrial output has become more diversified within this traditional but important sub-sector. The main engine of growth was the fruit canning industry, which benefited from buoyant export and local demand. In some instances, however, the industry has begun to feel the pressure of local raw material shortage.

Other industries within this sub-sector also have recorded satisfactory growth. The meat industry has successfully entered the export market. The dairy industry has made satisfactory progress both in local and foreign markets, but output is still expanding at a slower pace than milk supplies and consumption of milk products. The question of the high cost of milk production still remains to be solved. The manufacture of biscuits, on the other hand, is becoming firmly established in the local market, whereas the confectionery industry is faced with declining export markets.

Beverage Industry

The industry was strengthened with the addition of new projects. The wine industry continued its satisfactory export performance.

Textiles

The knitwear and hosiery industries expanded considerably. In the case of textile weaving there is still considerable potential.

Footwear and Clothing

Through their successful penetration into foreign markets, these industries developed into dynamic engines of industrial growth. Further rationalization is still needed to improve productivity and overcome labour shortages.

Wood and Cork

Despite some development this was a lagging sector in relation to its potential.

Furniture

Growth through import substitution was achieved, but there appears to be scope for further standardization and cost reducing innovations.

Leather Products

The growth of this sector was slow. Both tanning and leather finishing have considerable potential.

Chemicals

The main expansion force in this sector emanated from the detergent product group.

Non-metallic Minerals

This is a dynamic sector and its expansion followed closely the construction boom. Some pressure on cement capacity developed which led to investment and further capacity expansion.

Metal and Related Products

This sector attracted some major projects.

2.3 Major New Projects

During the Second Plan period 70 major industrial projects were implemented involving an investment of over £4.2 mln. and the creation of 2,068 employment opportunities. These projects do not include the oil refinery for the establishment of which a sum of £5.6 mln. was spent during the Plan period. As a result of these investments Cyprus industry was strengthened with the addition of a modern fruit and meat canning factory, a margarine plant, a biscuits factory, an ice-cream factory, a beer factory, clothing and knitwear factories, a paper sacks factory, a carton industry, a steel pipes fabricating unit, a metal containers unit, a paints and plaster factory, fruit canning factories, a textile mill, a carpets, blankets and bedspreads factory, a polythene bags factory, two pharmaceutical units, an edible oil unit, the oil refinery, a major relocation of a hosiery, a dairy plant, etc. These developments contributed substantially towards the development and modernization of the manufacturing sector.

2.4 The Size Structure

As the following table shows, the size structure of the industry improved with larger establishments contributing proportionately more to the production effort :

(At Current Prices)

	Gross Output		Value Added		Employment	
	1967	1971	1967	1971	1967	1971
Small Establishments(¹) ..	22.7	17.1	20.4	17.5	35.8	32.2
Large Establishments ..	77.3	82.9	79.6	82.5	64.2	67.8
Total Manufacturing ..	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

2.5 Diversification of Output Structure

The output structure became more diversified with the traditional sectors declining in importance in favour of the faster growing ones (Table 2). The share in manufacturing value added of the traditional food and consumer goods industries has declined from about 57% in 1966 to 53% in 1971, whereas industries supplying the construction sector became more prominent. The trend is less pronounced than that envisaged in the Second Plan because of the good export performance of some of the traditional sectors and the postponement of some projects in the chemical sector.

(¹) Establishments employing under five persons.

Structure of Value Added, 1966 and 1971

TABLE 2 (%)

	1966	1971
A. Food, Beverages and Tobacco	39.5	34.4
B. Textiles, Footwear and Clothing	17.7	18.5
Group I (A+B)	**57.2**	**52.9**
C. Wood and Furniture	6.8	7.6
D. Paper and Printing	4.9	5.8
E. Leather	0.8	1.1
Group II (C+D+E)	**12.5**	**14.5**
F. Rubber and Chemicals	3.8	4.4
G. Non-Metallic Mineral Products	8.5	9.7
H. Metal and Allied Products	15.9	15.5
I. Other	2.1	3.0
Group III (F+G+H+I)	**30.3**	**32.6**
Total Manufacturing	**100.0**	**100.0**

2.6 Improvement in the Value Added/Gross Output Ratio

There was also an improvement in the value added/gross output ratio which rose from 36.4% in 1966 to 37.7% in 1971, a trend indicating improved efficiency.

2.7 Employment and Productivity

Industrial employment increased by an average rate of 4.2% per annum rising from 27,930 in 1966 to 34,235 in 1971, thus creating 6,305 new jobs as follows(1) :

1966	1967	1968	1969	1970	1971	Index	Annual Rate of Growth (%) 1967–71
27,930	29,326	30,779	31,831	33,170	34,235	122.6	4.2

In the Second Plan it was estimated that employment would be rising at a rate of about 4.6% per annum. The slower expansion of industrial employment was realised within the context of a slower output growth. This fact underlines two factors which were operating during the Plan period. Firstly, the realized shift of employment to higher productivity units was slower than that anticipated and, secondly, productivity increased at a slower pace than the target rate.

Value added per head increased from £548 in 1966 to £698 in 1971, recording an average rate of growth of 5.0% per annum as follows :—

	1966	1971	Index	Annual Rate of Growth (%) 1967–71
Value Added at Constant 1966 Prices(1) (£mln.)	15.3	23.9	156.2	9.3
Employment	27,930	34,235	122.6	4.2
Value Added per Head (£)	548	698	127.4	5.0

(1) Excluding Cottage Industry.

The non-implementation of certain high productivity projects and the slower redistribution of employment from small to larger establishments explain the relatively slower pace of productivity advance which in the Second Plan was assumed to reach 5.5% per annum.

2.8 Investment

Realized investment in the manufacturing sector during the Second Plan period amounted to £25.9 mln., compared to the target of £27.0 mln. adopted in the Plan (at 1966 prices).

2.9 Exports

Exports of manufactured goods went up from £4.7 mln. in 1966 to £10.6 mln. in 1971 (at current prices), thus surpassing the target set in the Second Plan. It should be noted that earnings from manufacturing exports increased at a faster rate than total domestic exports thus augmenting their share in domestic exports from 17.1% in 1966 to 20% in 1970 and 25.1% in 1971. The sectors which witnessed the highest expansion in exports were (in £000) :—

	1966	1970	1971
Canning of Fruits and Vegetables	268	713	1,288
Clothing	68	501	955
Footwear (incl. Shoe-uppers)	39	952	1,138

2.10 Government Industrial Programme

These developments could not have been possible without Government encouragement and support. Government continued to take measures designed to create a climate favourable to industrial development. Thus, the tariffs were adjusted and duties on raw materials were eliminated or lowered to stimulate local industry. The institution of industrial estates was extended to Limassol and Larnaca and land was acquired for this purpose in Famagusta. Standard factories were constructed at Government's expense in Nicosia and Limassol. The existing Nicosia estate became fully operational and achieved a satisfactory level of occupancy. Forty-three factories have been established so far covering more than 60% of the rentable area of the Nicosia estate.

To accelerate industrial investment and modernization, more generous investment allowances were introduced. Thus, the initial allowance on plant and machinery was increased from 20% to 30% and that on industrial buildings from 10% to 20%.

The publicity effort was also stepped up. " Buy Cypriot " campaigns were organized to assist the marketing of local goods. Cyprus also participated in a number of trade fairs and specialized exhibitions. The drawback system was simplified.

Industrial research also was intensified. With U.N.I.D.O. assistance, the Ministry of Commerce and Industry undertook a major survey to identify investment opportunities. Problems of quality control, packaging, export promotion, industrial extension and free port zones were studied in depth. Specific feasibility studies were also conducted for a sawmill-chipboard complex, a fertilizer plant, the paper industry and a cement asbestos plant. In addition, the Government continued to give its support to various training institutions, and to channel loan finance through the Cyprus Development Bank.

Government development expenditures on manufacturing industry amounted to £1,341,000 as follows :—

	1967–1971	
	Realized	Planned
Oil Refinery	650(1)	1,600
Other Industrial Projects (Cyprus Forest Industries)	150(1)	120
Industrial Estates	510	500
Other	31	280(2)
Total	**1,341(3)**	**2,500**

3. Present Situation

The role of manufacturing industry in the Cyprus economy may be assessed by the following indicators referring to 1971 :—

	Total Economy (1)	Manufacturing Industry (2)	Relation of 2 : 1 (3)
Value Added (£mln.)	232.7	28.0	12.0
Gainfully Employed Population (000's)	245.7	36.3	14.8
Domestic Exports (£000's)	42.061	10.571(4)	25.1

It is evident from the above that manufacturing industry still plays a relatively small role in the economy even by standards of certain other developing countries. On the other hand, despite the low contribution of the industry to G.D.P., manufacturing exports account for 25% of domestic exports.

The structure of manufacturing industry is still marked by the existence of many small units with a relatively low productivity. Such a structure does not lend itself to an increase of production on a really large scale nor does it enable the most efficient use of human and material resources, with the result that an unfavourable cost structure with a high ratio of variable to fixed costs is created. In many cases excess capacity has developed. There are also problems connected with the paucity of the local market, the scarcity of a variety of indigenous raw materials, problems relating to financing and shortage of skills. To these one should add the family base ownership of many enterprises which, *inter alia*, does not facilitate the entry to the industry of new managerial talent. Because of the small size of industrial units generally and due to other limitations associated with it, the search for new markets abroad is not promoted to a satisfactory degree.

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(1) The Budget provision for these projects was transferred from the Development Fund to Deposit Accounts pending the exercising of Government's option to participate.

(2) Included expenditure on industrial promotion and feasibility studies. Expenditure on the first activity is shown elsewhere in the Plan ; the second activity was largely financed from multilateral and bilateral sources.

(3) During the period of the Second Plan, the Cyprus Development Bank approved loans totalling £3,899,000. Actual disbursements were £3,194,000. Out of this latter amount £2,016,000 were for manufacturing industry, £1,016,000 for tourist development and £162,000 for other projects. Government assisted the C.D.B. with long-term credits totalling £700,000 and provided guarantees and other facilities for bond issues and other loans contracted by the Bank.

(4) Including processed agricultural products.

4. The Third Five-Year Plan

4.1 Objectives

Cyprus has a limited market and a narrow resource endowment. It will thus continue to rely heavily on international trade. For these reasons manufacturing industry is suited and strategically well placed to satisfy the long and short-term objectives of the development effort. It is expected that industrial growth will introduce in the economy :

(a) Stability through Diversification

In the past the economy relied heavily on sources of income over which the Government exercised no control. Industrial growth will create conditions which would be conducive to sustained growth, will insulate the economy from external influences, will diversify output and inject more stability in the economy.

(b) Growth through Industrialization

Despite the appreciable growth in recent years, Cyprus still has a low *per capita* income compared to Western industrialized countries. It is imperative, therefore, that Cyprus should grow at a substantially higher rate than its European competitors if the differential between European and Cyprus living standards is to be reduced. To attain this objective significant expansion of domestic production is necessary. Agricultural output will be subject to a severe water constraint. Mining output for the time being is expected to increase only slightly. Manufacturing together with tourism must therefore be assigned a primary task in the development effort.

More specifically, industrial development is expected—

(i) to enable the utilization of local raw materials, to offer outlets for agricultural production, and to make a valuable contribution to balanced growth ;

(ii) to help narrow the trade gap through increasing exports and replacing imports ;

(iii) being a high productivity sector to enable the efficient utilization of resources ; and

(iv) to create better employment opportunities as opposed to more employment opportunities.

4.2 Development Strategy

Development strategy for the next five-year period must be so designed as to take account of the particular circumstances of Cyprus, the experience gained so far, and the likely effects of our association with the E.E.C. With a small and sophisticated market, a heavy emphasis on import substitution no longer appears to be a satisfactory policy to follow. More export orientation is called for. Such a policy must be carefully formulated and implemented so as to prepare the economy to face gradually the rigours of international competition.

It is only through such a policy that Cyprus industry can hope to overcome the major obstacle to development, i.e. the small size of the domestic market. Within this strategy there is still room for import substitution in carefully selected sectors, not as an end in itself but as an integral part of a broader policy. The structure of industry, however, must be such as to be able to sustain the export drive. Consolidation and specialization of units will be necessary and must be encouraged. The period of the Third Plan must be a period of restructuring and reorganization. This will improve efficiency and will lead to more economical production and distribution and hence to increased productivity.

In order to ensure that the benefits of international technology are extended to Cyprus with sufficient speed and in order to bridge the technological gap between Cyprus and other developed industrialized countries, the Government intends to encourage cooperation, especially joint ventures, with foreign firms with superior know-how in production, management and marketing. Only through such combined efforts will the Cyprus industry be able to compete effectively with some internationally branded consumer goods, which through long usage and effective advertising have managed to acquire a deep market acceptance.

4.3 Plan Targets

The main target of the Plan is to increase the share of manufacturing to the G.D.P. from about 12% in 1971 to about 14.1% in 1976. This target is in line with the long-term objective of raising the contribution of industry to the G.D.P. to more than 20% by the year 2000.

Detailed studies of the individual industrial groups, which take into account the various constraints, indicate that industry is expected to grow by an average rate of 11.1% per annum, as follows (in £000's—at 1970 prices) :—

	1970	1971	1976	Annual Rate of Growth (%) 1972–76
Census Value Added	26,024	28,776	48,480	
Administrative Costs	1,883	2,086	3,208	
Value Added at Factor Cost	24,141	26,690	45,272	
Cottage Industry	200	200	250	
Total Manufacturing	**24,341**	**26,890**	**45,522**	**11.1**

The above projections were based on certain basic assumptions, as follows :

(*a*) The economy will grow by just over 7% per annum.

(*b*) There will be a significant improvement in the value added/gross output ratio.

(*c*) The existing favourable economic climate will be maintained and certain institutional and policy measures will be taken.

(*d*) The existing level of protection will not undergo any radical change and all necessary measures to promote efficiency and a more suitable structure will be taken.

In the ultimate analysis, attainment of the targets of the Third Plan will depend on the resourcefulness of the private sector and its ability to take up the opportunities.

4.3.1 Projections of Gross Output by Group of Industries

Output projections have been prepared after careful study of the potentialities of the various industrial groups at a very disaggregated level. This was done with the aid of consumption estimates, income elasticities or consumption per head data ; in addition, the investment intentions of industrialists were sought through a special questionnaire. The results appear in Table 3.

Actual and Projected Gross Output of Manufacturing Industry, 1970, 1971 and 1976

TABLE 3

(*At* 1970 *Prices—£000's*)

	1970	1971	1976	Annual Rate of Growth (%) 1972–76
Food	18,968	21,505	30,025	6.9
Beverages	8,085	8,687	12,160	7.0
Tobacco	2,698	2,658	3,224	3.9
Textiles	1,903	2,155	4,084	13.6
Footwear and Clothing	8,233	9,167	13,907	8.7
Wood and Cork	1,406	1,470	2,688	12.8
Furniture and Fixtures	3,022	3,161	4,516	7.4
Paper and Printing	2,751	3,403	5,085	8.4
Leather Products	851	977	1,774	12.7
Rubber Products	536	563	835	8.2
Chemicals	2,048	2,375	7,620	26.3
Non-metallic Minerals	4,538	5,096	8,759	11.4
Metal Products	3,167	3,473	5,777	10.7
Machinery (non-electrical)	1,115	1,252	1,974	9.5
Electrical Machinery	415	435	1,139	21.2
Transport Equipment	2,322	2,488	4,019	10.1
Miscellaneous	1,918	2,149	4,030	13.4
Total Manufacturing	**63,986**	**71,014**	**111,616**	**9.5**

Source : Planning Bureau.

4.3.2 Projections of Value Added by Group of Industries

On the basis of gross output projections, value added was projected up to 1976 and the results appear in Table 4.

Actual and Projected Value Added by Major Industrial Group, 1970, 1971 and 1976

(At 1970 Prices—£000's)

TABLE 4

	1970	1971	1976	Annual Rate of Growth (%) 1972–76
Food	4,322	5,125	7,843	8.9
Beverages	3,885	4,211	6,142	7.8
Tobacco	747	730	926	4.9
Textiles	907	1,039	2,027	19.3
Footwear and Clothing	3,828	4,217	6,444	8.8
Wood and Cork	576	594	1,159	14.3
Furniture and Fixtures	1,483	1,595	2,323	7.8
Paper and Printing	1,405	1,653	2,665	10.0
Leather Products	276	303	572	13.6
Rubber Products	255	273	396	7.7
Chemicals	887	951	3,861	31.1
Non-metallic Minerals	2,721	2,825	4,993	12.1
Metal Products	1,320	1,487	2,490	10.7
Machinery (non-electrical)	691	792	1,276	10.0
Electrical Machinery	229	250	599	19.2
Transport Equipment	1,747	1,896	3,128	10.5
Miscellaneous	745	835	1,636	14.4
Total Manufacturing	**26,024**	**28,776**	**48,480**	**11.0**

Source : Planning Bureau.

It will be seen that the fastest growing group will be that of chemicals. Investment in the field of fertilizers and the expected production of the oil refinery will strengthen this sector. Buoyant demand and major import substitution opportunities are expected to make the electrical machinery industry a fast growing industry. Wood industries will be rationalized, improve the quality of their products and along with non-metallic minerals and metal products will be in a position to take advantage of favourable demand conditions generated by the construction boom. Textiles are expected to take advantage of the considerable import substitution opportunities available. Footwear and clothing are expected to grow through exports while the leather industry will be reorganized to supply the booming footwear exports. Food industry is anticipated to maintain a satisfactory growth level and to offset the slow growth of internal demand through exports mainly of canned fruits and vegetables.

4.3.3 The Importance of New Projects

New projects introduce into the economy modern technological and managerial methods, are in a better position to tackle difficult import substitution areas and give an impetus to the modernization effort through their demonstration effect.

Preliminary studies indicate that new projects will continue to play an important role during the Third Plan. It is estimated that about 11.3% of the additional value added between 1971 and 1976 will be contributed by new projects. More specifically an aggregate analysis of the expected impact of the new projects is shown in the following Table (in £000's) :—

Gross Output (1976)	4,949
Value Added (1976)	2,235
Employment (No.) (1976)	896
Investment (1972–76)	6,120
Ratio of Value Added to Gross Output (%) ..	45.2
Value Added per Head (£)	2,494
Capital per Person to be Employed (£) ..	6,830

Evidently, the new projects will be highly capital intensive and will thus have a high capital/labour ratio. Value added per unit of output will be considerably greater than the average of the industrial sector. More details on the new projects are presented in Table 5.

Major New Projects by Industrial Group Planned for 1972–1976

(*Values in £000's*)

TABLE 5

	No. of projects	Gross output 1976	Value added 1976	Employment 1976 (No.)	Investment 1972–76
Food Industry	1	100	50	40	100
Textiles, Clothing and Footwear	4	700	327	201	580
Wood and Cork	1	856	393	126	950
Paper and Printing	2	160	65	47	200
Leather Products	1	250	75	40	210
Chemicals	3	1,760	802	173	3,120
Non-Metallic Minerals ..	2	608	292	140	570
Metal Products	3	525	231	129	390
Total	**17**	**4,949**	**2,235**	**896**	**6,120**

Source : Planning Bureau.

Some of the most important projects under consideration are a manufacture and assembly of commercial vehicles plant, a ball point pens plant, a fertilizer plant, a sawmill-chipboard complex, a frozen vegetables factory, a cement asbestos products plant, a cordage mill, a weaving plant, a modern tannery, an insulating wire plant and a sanitary ware factory. It is tentatively estimated that an investment of more than £6 mln. will be required for the implementation of these projects which will create 896 additional employment opportunities.

The projections also envisage expansion of the cement capacity, major rationalization of the bakery sector and backward integration of vegetable oil refining. Certain other projects, the feasibility of which is under study, are : glass industry, a steel rolling mill, a sulfonation plant, vinyl floor tiles and sheeting flooring materials, wooden mouldings, a glazed floor and wall ceramic tiles plant, black bolts and nuts, building hardware and concrete blocks. Fruit sauces, hot sauces, salad cream, mayonaises could also be produced by existing establishments and the production period could thus be extended. New product lines could include breakfast, bread, pastry products, additional biscuits, sweets and chocolates and dehydrated potato mash.

4.3.4 Relation of Value Added to Gross Output

In the following Table the anticipated improvement in the relation of value added to gross output during the Third Plan is illustrated (in £000's) :

	1970	1971	1976
(1) Gross Output	63,986	71,014	111,616
(2) Value Added	24,111	26,690	45,272
(3) Ratio of (2) : (1)	37.7	37.6	40.6

It will be observed that a sizeable volume of output will be generated through improved efficiency. The Plan assumes that the relation of value added to gross output will improve from 37.6% in 1971 to 40.6% in 1976. This is in line with the objective of modernizing the manufacturing sector and could be achieved by more complete manufacturing operations, more economical use of raw materials, better utilization of inputs and better organization.

4.3.5 Shifts in Output Structure

Table 6 illustrates the anticipated shifts in value added. It will be seen that by 1976 industry will have a more diversified structure. The expected redistribution of output from the slow expanding food sector to other faster growing sectors is a trend already noticeable throughout the Second Plan period.

Manufacturing Value Added, 1970, 1971 and 1976

(%)

TABLE 6

	1970	1971	1976
A. Food, Beverages and Tobacco	34.4	35.0	30.7
B. Textiles, Footwear, Clothing	18.2	18.3	17.5
Group I (A+B)	**52.6**	**53.3**	**48.2**
C. Wood and Furniture	7.9	7.6	7.2
D. Paper and Printing	5.4	5.7	5.5
E. Leather	1.1	1.1	1.2
Group II (C+D+E)	**14.4**	**14.4**	**13.9**
F. Rubber and Chemicals	4.4	4.2	8.8
G. Non-metallic Mineral Products	10.4	9.8	10.3
H. Metal and Allied Products	15.3	15.4	15.4
I. Other	2.9	2.9	3.4
Group III (F+G+H+I)	**33.0**	**32.3**	**37.9**
Total Manufacturing	**100.0**	**100.0**	**100.0**

Source : Planning Bureau.

4.3.6 Shifts in Size Structure

Implementation of the industrial development programme is expected to bring about a restructuring of the industry with larger establishments becoming more prominent in the production process. This is consistent with the objective of effecting a more efficient utilization of the scarce resources of the economy. Amalgamation of industrial units will be encouraged because only such units could command the resources necessary to engage in more sophisticated management, organise production efficiently, employ modern marketing techniques and acquire sufficient capacity to engage in exports. Furthermore, such a development will relieve the industry from already severe labour shortages.

The expected shifts in the size structure during the Third Plan are shown below :—

(*At Constant* 1970 *Prices*)

	Gross Output		Value Added		Employment	
	1970	1976	1970	1976	1970	1976
Large Establishments	82.3	87.1	81.8	87.5	67.0	71.8
Small Establishments	17.7	12.9	18.2	12.5	33.0	28.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

4.3.7 Exports

The Third Plan is export oriented. Attainment of the export targets is an essential prerequisite if the overall target of increasing the share of manufacturing to the G.D.P. is to be realised. Accordingly, the Plan provides for an 85% increase in the exports of manufactured goods, from £10.6 mln. in 1971 to about £19.5 mln. in 1976. This indicates that exports will record an average annual rate of growth of 13.1% during the 1972–1976 period. Details of the anticipated growth in exports appear in Table 7.

Actual and Projected Exports of Manufactured Goods, 1970, 1971 and 1976

(*£000's*)

TABLE 7

	1970	1971	1976	Annual Rate of Growth (%) 1972–76
Food	2,182	3,034	5,672	13.3
Beverages	3,330	3,854	5,272	6.5
Tobacco	225	185	250	6.2
Textiles, Footwear and Clothing	1,500	2,214	5,650	20.6
Wood and Cork	81	15	120	—
Paper and Printed Matter	112	220	325	8.1
Leather Products	246	391	595	8.8
Chemicals	38	80	300	30.3
Non-metallic Minerals	126	195	330	11.1
Metal Products	113	268	680	20.5
Miscellaneous	48	115	349	24.9
Total Manufacturing	**8,001**	**10,571**	**19,543**	**13.1**

Source : Planning Bureau.

The export policy has been formulated having regard to the anticipated changes in the trading relations in Europe and our association with the E.E.C. The need to modernize industry and to maintain and increase our competitiveness on an international level is the indispensable ingredient of such a policy. This is, however, a long-term objective which would be achieved gradually and requires a number of measures which will take some time to yield tangible results.

The immediate task will be to adopt measures which will on the one hand promote growth and efficiency and on the other hand encourage industries which have proved their ability to penetrate the export markets. Two groups of such industries have been identified ; firstly, those which operate on a good local raw material base, like the canned fruit and vegetables and wine industries and, secondly, those industries which have other advantages such as the clothing, footwear and possibly the leather products industries.

4.3.8 Employment Requirements and Labour Productivity

Table 8 gives the labour requirements of the manufacturing sector until 1976. These were assessed separately for large and small establishments, at a very disaggregated level, assuming different rates of productivity growth.

Employment Requirements, 1970, 1971 and 1976

TABLE 8

	1970	1971	1976	Annual Rate of Growth (%) 1972–76
Food	5,071	5,412	6,219	2.8
Beverages	1,865	1,892	2,209	3.1
Tobacco	524	449	494	1.9
Textiles	1,212	1,304	1,750	4.1
Footwear and Clothing	8,020	8,280	9,703	3.2
Wood and Cork	766	767	926	3.8
Furniture and Fixtures	2,766	2,850	3,310	3.0
Paper and Printing	1,367	1,483	1,772	2.9
Leather Products	336	329	432	5.6
Rubber Products	223	225	249	3.0
Chemicals	624	668	1,168	11.8
Non-metallic Minerals	2,404	2,392	3,042	4.9
Metal Products	2,402	2,472	3,124	4.8
Machinery (non-electrical)	843	830	970	3.2
Electrical Machinery	343	334	480	7.3
Transport Equipment	3,375	3,435	4,156	3.9
Miscellaneous	1,029	1,113	1,417	4.7
Total Manufacturing(¹) ..	**33,170**	**34,235**	**41,421**	**3.9**

Source : Planning Bureau.

New projects were also separately analysed. Realization of the output targets will necessitate the creation of 7,186 employment opportunities during the period 1972–1976. The relatively modest increase in employment of about 3.9% per annum suggests that the Plan calls for a major effort to improve productivity. Otherwise strong pressures on the labour market will be generated with undesirable results. The basic assumption behind the projections is that a sizeable proportion of the

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(¹) Excluding Cottage Industry.

increased output will be produced by the existing labour force through an increase in the capital/labour ratio and through a more efficient use of factors of production. It is anticipated that labour will be gradually released from low productivity units for employment in more efficient units. On the above assumption it has been calculated that productivity will increase by 7.0% per annum as follows :—

	1970	1971	1976	Annual Rate of Growth (%) 1972–76
Value Added[1] (£000's)	24,111	26,690	45,272	11.1
Employment[1] (No.)	33,170	34,235	41,421	3.9
Value Added per Head (£)	728	780	1,093	7.0

Details of the expected productivity movement by industrial group appear in Table 9.

Census Value Added per Person Employed, 1970, 1971 and 1976

TABLE 9

(At 1970 Prices—£)

	1970	1971	1976	Annual Rate of Growth (%) 1972–76
Food	852.3	947.0	1,261.1	5.9
Beverages	2,083.1	2,225.7	2,780.4	4.5
Tobacco	1,425.6	1,625.8	1,874.5	2.9
Textiles	748.3	796.8	1,158.3	7.8
Footwear	600.9	646.6	893.2	6.7
Wearing Apparel	413.9	439.4	559.6	5.0
Other Made-up Textiles	768.3	779.1	1,041.9	6.0
Wood and Cork	752.0	774.4	1,251.6	10.1
Furniture and Fixtures	536.2	559.6	701.8	4.6
Paper and Paper Products and Printing	1,027.8	1,114.6	1,504.0	6.2
Leather Products	821.4	921.0	1,324.1	7.5
Rubber Products	1,143.5	1,213.3	1,590.4	5.0
Chemicals	1,421.5	1,423.7	3,305.7	18.4
Non-metallic Mineral Products	1,131.9	1,181.0	1,641.4	6.8
Metal Products	549.5	601.5	797.1	5.8
Machinery (Non-electrical)	819.7	954.2	1,315.5	6.6
Electrical Machinery	667.6	748.5	1,247.0	10.8
Transport Equipment	517.6	552.0	752.6	6.4
Miscellaneous	724.0	750.2	1,154.6	9.0
Total Manufacturing	**784.6**	**840.5**	**1,170.4**	**6.9**

Source : Planning Bureau.

4.3.9 Investment Requirements

Investment requirements were assessed by applying incremental capital/output ratios to output expected from existing industry. Investment requirements of new projects were separately assessed. In addition a survey of investment intentions was conducted among major firms to ascertain their plans and verify the above aggregate approach. The above simple exercises indicate that about £57 mln. of investment in fixed assets will be required to sustain the output targets set. During the Second Plan realized investment in the manufacturing industry is estimated at £31.6 mln. (at 1970 prices).

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[1] Excluding Cottage Industry.

4.4 Measures and Policies to Attain the Plan Targets and Objectives

4.4.1 General

The experience of the last decade has demonstrated that, despite the market constraint and the technological handicap, Cyprus industry can produce articles of good quality comparable with imported, which have been able to make satisfactory inroads into foreign markets. With proper policies and encouragement, Cyprus can and must develop a much broader industrial base than it possesses at present.

Unlike many other developing countries, Cyprus has attained a high level of literacy, possesses an adaptable and mobile labour force, a dynamic class of entrepreneurs and a favourable geographic location. To accelerate industrial growth a wide range of complementary, mutually reinforcing measures appear to be necessary which should be designed to solve simultaneously many problems, i.e. problems of management, marketing, financing, productivity, standardization, quality etc. At the same time these measures will aim at modernization of the industrial set-up and reformation of the industrial structure so as to make industry more effective in its efforts to penetrate both local and foreign markets.

During the Third Plan period, the Government will continue to follow an active policy of encouragement and promotion. Its role within the context of a liberal economy will be in general promotional, persuasive rather than compulsive. But within the framework of our democratic society the Government intends to assume a more active role in directing the path of development. Government intends to promote, guide and simplify procedures, but it will also intervene to avoid waste and promote efficiency.

4.4.2 Strengthening the Government Industrial Development Services

The most significant institutional measure to be taken during the Third Plan in the field of promoting industrial development (including export promotion) will be the reorganization and strengthening of the Government industrial development services under a new UNDP assisted project in order to render them more effective. The project will cover the provision of expert and other assistance by the UNDP to the Ministry of Commerce and Industry in various fields aimed at establishing new and strengthening existing industrial services and institutions related to industrial development. The long-range objectives of the project are in line with those of the industrial development effort. The immediate objectives are :—

(i) to advise the Government on its industrial policies and regulations and to assist in the preparation of programmes of industrial development and of industrial feasibility studies ;

(ii) to assist in the promotion of industrial projects ;

(iii) to provide advisory extension services in all aspects of establishing industrial enterprises, production and operation, and in product adaptation and development ;

(iv) to assist in setting up a National Standards Body, including formulation of legal documents and regulations needed for its operation ; to work out a methodology for formulation of national standards specifications and to promote their application in industries ;

(v) to assist in establishing and administering a quality control and certification marking system, including consultative services for industrial enterprises on the organization and operation of in-plant quality control and to provide laboratory and testing facilities for checking and certifying the conformity of products with the specifications ;

(vi) to advise and assist the Government in establishing and initiating operation of a Free-zone Industrial Estate ;

(vii) to advise and assist the Government in providing an adequate range of export services to Cyprus manufacturers to enable them to meet the export expansion and diversification objectives; and

(viii) to establish a country information and reference service for industry which can provide a continuous and up-to-date flow of technical and economic information to industrial enterprises, potential investors and Government bodies.

In pursuance of the above-mentioned objectives, the training of Cypriot counterparts will constitute an essential part of the responsibilities of the international team of experts.

4.4.3 Specific Programmes, Measures and Policies

Within the framework of the envisaged expanded industrial development services the Government will pursue a more active programme of encouraging and facilitating local industry to expand and modernize itself. More analytically, the industrial development plan will cover the following programmes, projects and policy measures :

(*a*) *Industrialization Council*

Consideration is being given to the establishment of an Industrialization Council on which the private sector and the Government will be represented. This will be under the Chairmanship of the Minister of Commerce and Industry and will serve as a forum for the exchange of views and for the discussion of problems relating to industrial development. It will inculcate the new philosophy of growing through exports, it will examine and make recommendations on major policy changes, transmit the mood of the private sector to the Government and thus become an important tool of development. Such a Council may now be more urgently needed with the launching of the Government/UNDP project.

(*b*) *Competition and Amalgamation*

Unlike a number of other countries in which the monopoly danger is serious, in Cyprus the problem in many cases is one of promoting efficiency through the creation of larger units. This in no way implies that the encouragement of such units will lead at the same time to the creation of monopoly conditions. Free competition will be maintained and improved. Only in this way shall we be able to create units capable of facing foreign competition in the local market and successfully competing with foreign firms abroad. But it will be an aim of policy to promote efficiency through mergers which will enable industries to benefit from economies of scale and to reduce costs of production. On the other hand, where there is evidence of exploitation, measures could be taken to regulate such mergers.

(*c*) *Tariff Policy*

Because of the constraint imposed by the small size of the local market, attainment of the targets set for the manufacturing sector leaves no option but to follow a liberal trade policy. Such a policy, however, is not inconsistent with protection. For one thing, protection may be necessary to enable a local industry to grow beyond the infancy stage, to organize itself on a rational basis, to improve marketing conditions and the quality of its products or for most general reasons, such as dumping. But it is not correct policy to protect industry behind high tariff walls indefinitely. Protection should not be permanent and the results of the protection given in the past will be studied.

Rationalization of the tariff policies will become more necessary now in view of our association with the E.E.C. The role of protection through tariffs will be declining in importance in the years to come and other measures will be necessary to promote efficiency and development.

(*d*) *Industrial Estates*

This is a device that has been used with success during the Second Plan period to influence industrial location. Suitable land is developed by Government and industrial plots are leased to industrialists at subsidized rentals. In some cases, the estate also offers standard factories for the smaller industrial units. This arrangement enables Government not only to influence industrial location but also to offer cheap sites and low cost basic services to industry.

During the Third Plan period, the existing industrial estates in Nicosia, Limassol and Larnaca will be completed and the practice of establishing standard factories will be continued on a selective basis. In view of the high level of occupancy attained in the Nicosia estate, an extension has become necessary. Moreover, two new industrial estates, one in Famagusta and one in Paphos are envisaged. The Government will also examine the desirability of establishing new forms of estates (e.g. for noxious industries).

(*e*) *Free Zones/Industrial Estates*

The Government proposes to establish port based and airport based free zone/industrial estates. These will be suitable for break bulk operations, assembly industries, joint ventures and export industries in general. The establishment of free zone/industrial estates is in line with the policy to promote export industries and to exploit fully the locational advantage of Cyprus.

(*f*) *Capital and Tax Incentives*

The Government intends to re-examine the present sources of finance for industry and to take the necessary measures to ensure that growth is not impeded through lack of finance. In this context, the Government will review the experience gained so far from the operation of the Cyprus Development Bank.

The existing system of tax incentives will be continued, but a study of the relevant legislation has been undertaken to ascertain whether any changes are needed. Advice will also be sought on the best way to promote public companies. It is considered that the development of such companies, besides serving as a medium for the mobilization of savings of the small investor, broadening the ownership base of enterprises and creating the prerequisite for the establishmnet of a stock exchange, may also to some extent solve the problem of high debt to equity ratio which to-day in many cases acts as a bottleneck to growth. Consideration is also being given to the possibility of introducing an export credit and/or export guarantee scheme during the early stages of the Third Plan.

(*g*) *Quality and Standards*

The establishment of a quality and standards body during the Third Plan will help coordinate efforts for the improvement and standardization of commodities, simplify production and distribution methods, eliminate waste and thus reduce costs. It will formulate standard specifications and promote their application by industries. It will also administer a quality control and certification marking system, including technical services to industrial enterprises on the organization and operation of in-plant quality control. Examination and testing of commodities will also safeguard public health. From a preliminary evaluation, standards are needed in clothing, footwear, chemicals, medical supplies, cosmetics, processed food, building materials, furniture, etc. This body is an essential prerequisite in the effort to overcome irrational consumer preferences, win greater acceptability of the local manufactures and enable Cyprus industry to break into the export market.

(*h*) *Industrial Extension Service*

Another innovation will be the establishment of an extension service to advise industrial enterprises on their problems. This service will combine economic and engineering expertise, keep the industry under constant review and offer quick and effective solutions to the problems facing the industry. The underlying idea is that only comprehensive action could have a significant impact on industrial growth.

(*i*) *Cottage Industry*

More attention will be given to the development of this sector. Increased emphasis will be laid on improved designs.

(*j*) *Marketing of Industrial Products*

Apart from measures to improve quality and reduce costs, the Government proposes to take other measures to facilitate the disposal of industrial products both locally and abroad. Government and semi-Government Institutions will continue to give preference to local goods and the annual " Buy Cypriot " campaigns will be intensified. Moreover, a review will be made of existing distribution channels with a view to ensuring that the trade sector makes its contribution to the promotion of Cyprus goods.

As far as export markets are concerned, the conventional means of export promotion will be used more intensively (publicity, trade fairs, exhibitions, market studies, dissemination of information, etc.). For a more thorough exposition of the marketing of Cyprus produce both locally and abroad the reader is referred to Chapter 14.

(*k*) *Training of Manpower*

The Government will continue its policy of ensuring that the required skilled manpower is available. Therefore, training in fields suitable for employment in industry will be actively pursued. However, industry itself will be asked to share the increasing costs of such training. For more details on labour development and training programmes attention is invited to Chapter 20.

(*l*) *Industrial Research Programme*

The industrial research programme will be intensified during the Third Plan to form the basis for a rational and speedy expansion of industry. The programme will encompass studies on various aspects of industrial development ranging from systematic studies on the suitability of existing industrial structure to research on export markets for selected commodities, reappraisal of the marketing methods of export industries, productivity studies for specific projects, reappraisal of the effectiveness of the tariff and other industrial policies, feasibility studies, etc. The results of the research programme will be brought to the attention of industrialists through the establishment of an information and reference service, which in addition will disseminate technical and economic information to interested entrepreneurs.

4.5 Government Investment and Other Development Expenditures

In order to support the industrial programmes and projects of the Third Plan an amount of £2.8 mln. has been allocated in the form of development expenditure as in Table 10.

Government Investment and Other Development Expenditures, 1972-1976

TABLE 10

	£000's
Oil Refinery	190
Cyprus Forest Industries	258
Other Projects (incl. Cottage Industry)	275
Industrial Estates	800
Free Port Zones/Industrial Estates	400
Other (Administration, Standardization, Industrial Extension, Research, Export Promotion, etc.)	400
Total Direct Development Expenditure	**2,323**
Loans	**500(¹)**
Grand Total	**2,823**

(¹) In addition £1.5 mln. will be channelled to the C.D.B. for industrial and tourist loans. During the period of the Plan it is estimated that the C.D.B. will grant loans totalling £8.4 mln. out of which £4.6 mln. will be for industrial development.

CHAPTER 12

ELECTRICITY, GAS AND WATER

1. Introduction

This sector is dominated by the Electricity Authority of Cyprus. The contribution of the sector to the Gross Domestic Product at current factor cost amounted to 2.0% in 1971. It is estimated that 83% of the value added is accounted for by electricity generation, while the rest is contributed by gas bottling and water supply establishments.

2. Developments during the Second Plan

During the period of the Second Plan total sector value added expanded by an annual rate of 11.6% rising from £2.6 mln. in 1966 to £4.5 mln. in 1971 at constant 1966 prices. Employment increased from 1,153 in 1966 to 1,300 (¹) in 1971, while investment is estimated to have reached £13.1 mln. at current prices or £11 mln. at constant 1966 prices during the whole 1967–1971 period. In what follows the performance of the sector will be analysed in detail focussing attention on the E.A.C.

2.1 Performance of the E.A.C.

During the period under review the Electricity Authority continued its extensive electrification programme which started during the First Plan period. The programme, which was implemented with considerable success, aimed at the expansion of generating capacity and the extension of the transmission and distribution systems so as to offer improved services to urban and rural areas.

(i) CAPACITY EXPANSION

As envisaged in the Second Plan, the capacity of the Electricity Authority was expanded by 19.3% by installing the third 30 MW turbo-alternator at Moni Power Station, thus bringing the total capacity of the E.A.C. to 177.0 MW. The development of electricity generating capacity during the First and Second Five-Year Plans is illustrated in Table 1.

Electricity Generating Capacity, 1961, 1966 and 1971

TABLE 1 *(MW)*

	1961	1966	1971	Indices for 1971	
				1961=100	1966=100
E.A.C. ..	74.7	148.4	177.0	236.9	119.3

Source : E.A.C. Annual Report.

As a result of the observed increase in demand for electricity the investment programme of the E.A.C. was stepped up and, thus, a fourth 30 MW turbo-alternator will be installed by June 1972 instead of 1973 as originally planned.

(¹) Excluding construction workers.

(ii) CONSUMPTION OF ELECTRICITY

The targets of the Second Plan were surpassed and consumption of electricity expanded at a much higher pace than envisaged in the Plan. Table 2 illustrates the spectacular increase in electricity consumption during the Second Plan. As will be observed, electricity consumption has expanded by an average annual rate of growth of about 14%.

TABLE 2

Consumption of Electricity, 1966 and 1971

(In 000's Kwh)

	1966	1971	Annual Rate of Growth (%) 1967–71
Domestic	65,569	140,259	16.4
Commercial	104,315	174,586	10.9
Industrial	74,982	152,852	15.3
Irrigation	9,048	18,127	14.9
Public Lighting	9,020	17,513	14.2
Total	**262,934**	**503,337**	**13.9**

Source : E.A.C. Annual Report.

Examining the development in electricity consumption in a more detailed manner, it will be observed that consumption for domestic purposes expanded at more than 16% per annum, which is a very satisfactory growth rate and a reflection of the improvement of the standard of living of the population. The growth in electricity consumption for commercial purposes (about 11% per annum) reflects improvements in the commercial sector, the increasing needs of the tourist industry, etc. The increase in industrial consumption, which was of the order of 15.3% per annum, indicates not only the growth in output, but also increasing mechanization of the Cyprus industry, reliance on capital intensive methods of production and structural shifts from smaller to larger units of production.

(iii) RURAL ELECTRIFICATION

The Electricity Authority has also met its target in its rural electrification programme. During the Second Plan 196 villages were connected with the electricity system for the first time, thus, bringing the total number of villages on supply to 512 compared with 516 villages which was the Plan target. Table 3 gives more details of the rural electrification programme implemented by the E.A.C.

TABLE 3

Number of Villages on Supply, 1966–1971

	1966	1967	1968	1969	1970	1971
Nicosia ..	113	121	129	141	148	153
Limassol ..	54	62	72	77	91	108
Famagusta ..	55	61	68	76	78	78
Larnaca ..	32	37	38	41	47	49
Kyrenia ..	28	31	35	35	37	38
Paphos ..	34	46	58	70	81	86
Total ..	**316**	**358**	**400**	**440**	**482**	**512**

Source : E.A.C. Annual Report.

(iv) INVESTMENT PROGRAMME

In the Second Plan fixed investment of about £6 mln. was envisaged. This included the installation of a 30 MW unit in Moni and the extension and reinforcement of the distribution systems. The original programme has been successfully implemented ; but because of the very rapid expansion in electricity consumption the investment plan had to be revised so as to provide for a further increase in capacity through the installation of a fourth 30 MW turbo-alternator earlier than envisaged and for the acceleration of the improvement of the transmission and distribution system. As a result the E.A.C. investment exceeded the Plan target and reached £9.7 mln. at current prices or £8.2 mln. at constant 1966 prices.

2.2 Developments in the Rest of the Sector

The other activities of the sector developed satisfactorily. Thus, the programme for the improvement of the town and village water supplies proceeded successfully. Preliminary work for the implementation of the first phase of the sewerage schemes of Nicosia and Famagusta was completed, the financing has been secured and the projects started being implemented. Investment in gas bottling and water supplies (which absorbed the bulk) reached £3.4 mln. at current prices or £2.8 mln. at constant, 1966 prices.

3. The Third Plan

3.1 Electricity

The targets and programmes in this sub-sector during the Third Five-Year Plan include : (*a*) the completion of the Moni Power Station. This will involve the installation of two additional 30 MW turbo-alternators planned for 1974 and 1975 in addition to the one which will be commissioned in June 1972. Thus, by 1976 total capacity will reach 267 MW ; (*b*) commencement of work for the installation of two 15 MW gas turbine sets at Athalassa, which are scheduled for commissioning in 1977 ; (*c*) extension and reinforcement of the transmission and distribution systems ; (*d*) continuation of rural electrification ; and (*e*) improved services to urban consumers.

(i) PROJECTIONS OF ELECTRICITY CONSUMPTION

To assess future electricity consumption account has to be taken of the electrification programme since it gives an indication of the available supply to consumers. On the assumption that the electrification programme will be implemented in time, a growth rate of 10.6% per annum has been adopted.

Domestic consumption is already at a high level, but the relatively high rate of growth of 12.0%, which is somewhat lower than the growth achieved during the 1967–1971 period, may be a reasonable target. In the case of electricity consumption for commercial purposes a 9.1% average annual rate of growth is envisaged, which is somewhat lower than the one achieved in the Second Plan. On the assumption that manufacturing value added will expand by about 11% per annum and the expansion of the value added in mining and quarrying will be relatively small, it has been calculated that industrial consumption of electricity will increase by 12.1% per annum. The results for total consumption are presented in Table 4.

TABLE 4

Projected Consumption of Electricity, 1971 and 1976

(In 000's Kwh)

	1971	1976	Annual Rate of Growth (%) 1972–76
Domestic	140,259	246,883	12.0
Commercial	174,586	270,299	9.1
Industrial	152,852	271,004	12.1
Public Lighting	17,513	29,300	10.8
Irrigation	18,127	16,000	—2.5
Total	**503,337**	**833,486**	**10.6**

Source : Planning Bureau, E.A.C.

(ii) PRODUCTION OF ELECTRICITY

Production of electricity is made up of the total units consumed plus the amount lost. The evolution of electricity production so far and the projections for 1976 are given in Table 5.

TABLE 5

Actual and Projected Production of Electricity

(In Mln. Kwh)

	Units generated	System Losses %	Units sold
1962	248.2	16.2	207.9
1966	348.9	24.6	262.9
1970	563.6	18.3	460.5
1971	618.2	18.9	503.3
1976	975.9	14.6	833.5

Source : Planning Bureau, E.A.C.

(iii) VALUE ADDED AND GROSS OUTPUT

Value added at factor cost and gross output are expected to expand as shown below :—

	1971	1976
Gross Output—£000's at 1970 Prices	5,285	8,707
Value Added at Factor Cost—£000's at 1970 Prices	3,827	6,555

(iv) EMPLOYMENT

Implementation of the above programme will increase employment by about 4.3% per annum, assuming an annual increase in productivity of 6.4%. The possible developments are :

	1966	1971	1976
Employment (Nos.)	1,153	1,300	1,600

(v) INVESTMENT PROGRAMME

The E.A.C. investment programme envisages expenditure of the order of £13.1 mln. at constant, 1970 prices. At current prices (including the price of land) the programme is estimated to cost £15.3 mln. The financial resources for these investments will emanate from internal sources (£10.6 mln.), the I.B.R.D. (£0.7 mln.) and from the proposed fourth I.B.R.D. loan (£4.0 mln.).

3.2 The Rest of the Sector

The targets and objectives regarding the rest of the sector include further improvements to the town and village water supplies and the completion of the first phase of the Nicosia and Famagusta sewerage schemes, as well as the preparation of studies and plans for similar projects in other towns. Investment plans for the rest of the sector envisage expenditure of the order of £7.1 mln. to be spent on town and village water supplies, the Nicosia and Famagusta sewerage schemes, gas bottling, etc.

3.3 Sector Summary

Developments in the sector are expected to be as depicted in Table 6.

Actual and Projected Gross Output, Value Added and Employment of the Electricity, Gas and Water Sector, 1971 and 1976

TABLE 6

	1971	1976	Annual Rate of Growth (%) 1972–76
GROSS OUTPUT (in £000)(1) :			
Electricity	5,289	8,711	10.5
Gas Bottling	823	1,388	11.0
Water Supply	653	916	7.0
Total Gross Output	**6,765**	**11,015**	**10.2**
VALUE ADDED (in £000)(1) :			
Electricity	3,830	6,558	11.3
Gas Bottling	328	553	11.0
Water Supply	428	600	7.0
Total Value Added	**4,586**	**7,711**	**11.0**
EMPLOYMENT (NOS.) :			
Electricity (incl. Construction Workers)	1,736	2,235	5.2
Gas Bottling	76	95	4.6
Water Supply	209	241	2.9
Total Employment	**2,021**	**2,571**	**4.9**

Source : Planning Bureau.

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(1) At 1970 prices.

CHAPTER 13

TOURISM

1. Introduction

The unprecedented growth of tourism during the Second Plan period has given this industry an increasingly prominent place in the overall economy of the country and has enabled Cyprus to establish itself as an international tourist centre. And this development has taken place in spite of the internal political anomaly which has continued during the Plan period. The natural beauty of the Island, its excellent beaches, its pleasant climate, its picturesque sites, the traditional hospitality of the people, the wide diversity of archaeological monuments, coupled with the efforts and the enterprising spirit of the private sector and the assistance, encouragement and policies of the Government have all contributed to this tourist boom.

In the following paragraphs a brief account is first given of the role of tourism in the economy and then a general outline of developments during the Second Plan period. This will serve as an introduction to the presentation of the objectives, targets and policies of the Third Plan.

2. The Role of Tourism in the Economy

The economic importance and the strategic role of the tourist sector in the development effort of Cyprus are due to the following :—

(i) The size of its contribution to the foreign exchange earnings of the country, which will assume greater importance in the future because of the decline of the contribution of some of the traditional sources of foreign exchange earnings and the need to restructure the balance of payments.

(ii) The size of its contribution to the national income.

(iii) The employment opportunities which it provides directly or indirectly.

(iv) Its importance from a regional development point of view.

(v) Its contribution towards the productive utilization of the natural amenities of the Island.

3. Past Developments—The Second Plan, 1967-1971

3.1 Objectives and Policy Measures of the Second Plan

The main objectives of the Second Plan were :

(i) To attain an annual average rate of growth in the tourist traffic of about 25%.

(ii) To take measures conducive to an increase in the average length of stay and the expenditure per tourist.

(iii) To take such other steps as would facilitate an extension of the tourist season and improve the seasonal pattern of tourism.

(iv) To expand hotel capacity in areas likely to yield higher and quicker returns and encourage investment in other, complementary facilities.

(v) To introduce institutional changes which would facilitate the development of the industry.

Some of the main policies and measures envisaged in the Second Plan for the attainment of the above objectives were :

(*a*) To step up Government expenditure for tourist publicity and promotion abroad.

(*b*) To provide increased loan finance for the purpose of expanding hotel capacity and to supplement this, where necessary, with direct investments on the part of the public sector.

(*c*) To negotiate agreements with potential foreign or local investors for the leasing of State lands suitable for tourist development.

(*d*) To expand and improve the facilities available for the training of hotel and catering personnel.

(*e*) To take legislative measures for the reclassification of the hotels on the basis of international standards ; to establish a Tourist Organization to be made responsible for the formulation and implementation of tourist policy and tourist development in general; to regulate the functioning and operation of travel agencies; and to take legislative action to protect and ensure the balanced development of areas of tourist interest.

3.2 Progress during the Second Plan

3.2.1. Demand for Tourist Services

The most important indicators of the size and direction of the demand for tourist services can be given by the evolution of the number of tourist arrivals and the size of gross foreign exchange earnings realised. Statistical data for these magnitudes are presented in Table 1. As it can be seen from this Table, the main targets have been surpassed. The growth is also impressive by comparison with the corresponding growth rates of the international tourist traffic. The annual increase of world tourism during the period 1966–1970 varied between 3% to 10%. The performance of Cyprus in 1971 ranks among the highest in the world (41%).

TABLE 1 **Number of Tourists Arriving in Cyprus and Gross Tourist Expenditures, 1961, 1966 and 1971**

	1961	1966	1971		1967–1971	
			Actual	Planned	Actual Annual Rate of Growth (%)	Planned Annual Rate of Growth (%)
ARRIVALS :						
Tourists(1)—No. ..	40,140	54,114	178,598	169,600	27.0	25.6
Excursionists(2)—No.	66,085	88,452	129,301	132,240	7.9	8.4
FOREIGN EXCHANGE EARNINGS :						
Travel—£mln. ..	2.8	3.6	13.6(3)	11.6	30.3	26.3

Source : Department of Statistics and Research, Planning Bureau.

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(1) " Tourists " include temporary visitors plus visitors staying more than 24 hours with a transit visa.

(2) " Excursionists " include visitors staying up to 24 hours (one-day visitors).

(3) The basis for calculating earnings from travel has been revised in 1971 and this figure is not strictly comparable with previous years.

During the Second Plan period earnings from tourism increased substantially as a result of a higher average length of stay, higher expenditure per tourist day and the increase of the tourist traffic. In 1971 the average length of stay of foreign tourists was 19.6 days per tourist (¹). The relatively long average stay can be attributed mainly to the longer duration of stay of Cypriots who are permanent residents of the U.K. or other countries and who choose to spend long holidays with their relatives in Cyprus. The length of stay for the remaining classes of tourists is believed to range, as a rule, between 8 to 14 days per tourist. Expenditure per tourist is estimated to have risen from about £65 in 1966 to around £74 in 1971 (²). Both the above changes were anticipated in the Second Plan.

A notable characteristic of the tourist traffic during the Second Plan period was that the proportion of tourists arriving by air rose from 80% in 1966 to 92.8% by 1971. This is mainly due to the general development of air services. In the case of excursionists, the proportion of visitors arriving by air over the same period increased from 37.3% in 1966 to nearly 50% in 1971. On the other hand, the proportion of tourists arriving in Cyprus for holiday-making as opposed to business, etc. increased from nearly 90% in 1966 to 93% in 1971. An appreciable proportion of the tourist traffic consists of Cypriots residing abroad and relatives of British and other military personnel permanently stationed in the Island. The majority of this class of tourists usually stay in accommodation provided by their hosts and not in hotel accommodation.

As regards the composition of the traffic by country of usual residence, this does not appear to have undergone any radical change compared with the situation in 1966. Table 2 shows the main changes recorded during the period of the Second Plan. In 1971 three countries alone were responsible for nearly 60% of the total traffic and nearly 44% of total arrivals consisted of U.K. residents. The tapping of the German and the Scandinavian markets was one of the objectives of the Second Plan.

The problem of seasonality, which is common to most Mediterranean countries, is related not only to the country of usual residence of tourists, but also to the amenities offered by the tourist receiving country. Available statistics show that the Cyprus "tourist season" lasts for an eight-month period, including the months of April to October and December, and is characterised by three peak-periods, namely, the April, July-August and the December peaks, which correspond to the Eastern, Summer and Christmas holiday seasons, respectively. The proportion of tourist arrivals for the above eight-month tourist season rose slightly from 81.3% in 1966 to 82.2% in 1971. However, there has been some progress towards minimising somewhat the pressure on the peak-months. The proportion of tourist arrivals in the months of December and July–August fell from

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(¹) This reflects the overall average number of days of stay of all tourists, including visitors staying longer than 60 days. For 1966 the average length of stay was reported to be 8 days, but apparently the coverage was different.

(²) One-day visitors or excursionists are estimated to have spent on average about £3 each in 1971.

Composition by Country of Usual Residence of the Foreign Tourist Traffic in 1966 and 1971

TABLE 2

	1966		1971	
	No. of Arrivals	% to Total	No. of Arrivals	% to Total
1. U.K.	20,055	37.1	78,062	43.7
2. U.S.A.	4,880	9.0	13,880	7.8
3. Greece	6,372	11.8	12,327	6.9
Sub-total	31,307	57.9	104,269	58.4
4. Lebanon	2,475	4.6	10,708	6.0
5. Federal Republic of Germany	1,213	2.2	10,193	5.7
6. Israel	6,395	11.8	7,957	4.5
7. Sweden	834	1.5	5,410	3.0
8. Other Countries	11,890	22.0	40,061	22.4
Sub-total	22,807	42.1	74,329	41.6
Grand Total	**54,114**	**100.0**	**178,598**	**100.0**

Source : Department of Statistics and Research, Planning Bureau.

8.1% and 31.3% in 1966 to 6.9% and 29.2% in 1971 respectively, whereas in the case of the month of April the share increased from 7.9% to 10.1%. Another aspect of the seasonality problem concerns the hill resorts, whose tourist season lasts for about 2 months only. This latter problem is closely related with the international trend and the marked preference for the coast. The seasonal nature of tourism has economic repercussions and imposes a financial strain primarily on hotel and catering enterprises.

Three other characteristics on the demand side should be mentioned. The first is that the additional tourist traffic attracted to Cyprus between the years 1966 and 1971 concentrated mainly in Famagusta and Kyrenia to the extent of 52.4% and 20.3% respectively, which was in accordance with the anticipated pattern in the Second Plan. The second feature was that the additional number of tourists chose to stay mainly in de-luxe and first class hotels, on the basis of the old classification. This development was also anticipated in the Second Plan and strengthens the view that the bulk of the tourists belonged to the middle class income group. Finally, one source of demand for tourist services is that of internal tourism. Unfortunately the relevant statistical data available are incomplete and the size of this type of demand cannot be quantified. What could be safely said is that internal tourism also has expanded during the period under review.

3.2.2 Supply of Tourist Services

Because of the inter-sectoral nature of tourism the supply of tourist services encompasses practically all fields of economic activity. As indicators of performance, however, one can utilize data relating to hotel establishments, travel agencies, recreation services, restaurants, bars and night clubs. Reference to other indicators (e.g transport, ports, airports, roads, etc.) is made in other Chapters of the Plan. With the exception of hotel establishments, the statistical information available concerning the remaining services is scanty and cannot be relied upon for definite conclusions. Table 3 provides a summary picture of the main developments during the period of the Second Plan.

TABLE 3

Supply of Tourist Services, 1961, 1966 and 1971

	1961	1966	1971	
			Actual	Planned
ACCOMMODATION AND LODGING :				
(*a*) ***Hotel Establishments :***				
No. of units operating	110	126	141(1)	—
No. of beds	4,306	6,020	9,413(2)	9,241
No. of persons employed	n.a.	984	2,096(3)	2,960
(*b*) ***Lodging Houses :***				
No. of units operating	n.a.	51	32(4)	—
No. of persons employed	n.a.	85	97(4)	—
TRAVEL AGENCIES :				
No. of establishments operating(5) ..	n.a.	58	155	—
No. of persons employed	n.a.	371	985	—
RECREATION SERVICES (e.g. sports & race clubs, etc., except theatres and motion pictures) :				
No. of units operating	n.a.	156	68	—
No. of persons employed	n.a.	198	273	—
ENTERTAINMENT SERVICES :				
(*a*) ***Restaurants, Cafes, Taverns, etc.:***				
No. of units operating	n.a.	4,253	3,439	—
No. of persons employed	n.a.	6,927	6,149	—
(*b*) ***Night clubs (including cabarets) :***				
No. of units operating	n.a.	21	36	—
No. of persons employed	n.a.	287	379	—

Source : Cyprus Tourism Organization, Department of Statistics and Research, Services Surveys, Hotel and Catering Institute.

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(1) In addition to the 141 hotel units there were 44 hostels or other accommodation units with a capacity of 738 beds.

(2) By December, 1971, the total number of hotel units which qualified under the new system of classification under the 5-star system was :

Former hotel units 81 having 7,062 beds
Former hostel units 3 having 85 beds
Total .. 84 hotels 7,147 hotel beds

The above figure excludes 286 beds in service flats (tourist appartments).

(3) Revised estimate by the Department of Statistics and Research (1970 : 1,878 persons which is also a revised figure).

(4) Estimates.

(5) Based on a census carried out by the Hotel and Catering Institute. The figure includes head offices and branches. The number of head offices alone was 108 management units in 1971.

(i) HOTEL CAPACITY

The realized expansion in hotel capacity (3,393 beds) surpassed the target (3,221 beds) of the Second Plan, and has followed closely on the growth of the tourist traffic. This creditable performance has been the result of the enterprising spirit of private entrepreneurs aided by the policies, encouragement and various measures taken by the Government. Apart from the infrastructure and other projects and measures carried out or taken by the Government, the latter has also provided incentives of various forms (initial and depreciation allowances, duty free importation of equipment and furniture) and low interest loan finance. Investment in the hotel sector alone during the 1967–1971 period amounted to about £5.4 mln. or just over £1 mln. p.a. An average of 678 beds were installed in each year of the Plan.

The period under review also witnessed a trend towards the establishment of larger hotel units in line with international trends and consistent with sound economic principles. The bulk of the additional hotels belonged to the 4 and 3-star class category. Minor increases in bed capacity were also recorded in the case of 2-star (third class) hotels.

The additional hotel capacity which became operational during the Second Plan was concentrated in Famagusta, Nicosia, Limassol and Kyrenia and, mainly, in the vicinity of the town boundaries and along the coastline. Contrary to expectations, developments in Kyrenia lagged behind. The Famagusta town alone was responsible for just over 50% of the total additional hotel accommodation created during this period.

(ii) HOTEL PRICES

Expenditure on hotel accommodation usually constitutes the largest single component of tourist expenditure and may exert a serious influence on the potential number of visitors. Available statistics indicate the following average (highest plus lowest) annual price increases during the period 1967–1971 :

HOTEL CLASS (all types of room accommodation)	Range of Average Price Increase (% p.a.)
1. De-luxe	5.7 — 10.1
2. First Class	8.0 — 12.7
3. Second Class	0.7 — 8.4
4. Third Class	7.8 — 12.5
5. Fourth Class	6.0 — 12.5

The rise in hotel prices has been comparatively higher than the price increases recorded in certain other competitive countries. These developments, if continued may ultimately result in a weakening of the competitive position of Cyprus in world tourism. On the other hand, during the same period, the cost of air fares has been reduced and this has compensated to a certain extent for the increased cost of hotel accommodation.

(iii) EMPLOYMENT AND SKILLS

The considerable growth of employment by 1971 in the hotel sector (1,112 additional persons) has fallen short of the Plan target. In a number of cases hoteliers were obliged to compete for labour under conditions of general shortage, especially during the peak season months of July and August. The shortage of manpower was more acute in the case of lower and middle grade skilled personnel, and this in spite of the increased efforts of the Government operated hotel schools. During this period, a total of 470 persons completed their training courses in hotel schools, out of which 65 persons were graduates of private institutions. It is believed that the most acute shortage in skilled personnel was felt in the case of waiters, housekeepers, cooks and receptionists. A serious gap also appeared in the case of top management personnel, which was partly filled through the hiring of foreign staff. One of the causes of the difficulties faced was the reluctance of young people to enter the hotel and catering trades, especially in the first half of the Second Plan period. On the other hand, a welcoming development has been the considerable influx of female staff which has helped, to a certain extent, to relieve the situation resulting from the scarcity of male labour in the entire field of the tourist trades.

3.2.3 The Government Sector

The Government has played an important role in the development of the tourist sector during the period of the Second Plan. The assistance extended by the Government to the tourist industry took various forms, but mainly it consisted of direct expenditures, loans and other incentives and institutional measures.

(i) The Public Expenditure Programme

During the period 1967–71 the expenditures of the public sector (including loans) has followed an upward trend and reached the figure of £3.6 mln. which was almost two and a half times more than the amount actually spent during the period of the First Plan (£1.6 mln.). Table 4 gives a summary picture of the Government direct expenditures incurred and the loan finance provided out of funds allocated from the Development Budgets.

Development Budget Expenditure Programme, 1967–1971

(*£000's*)

TABLE 4

	Planned	Realized
1. Major beach development projects and other tourist schemes	3,000(1)	908.4
2. Administration, promotion and tourist publicity	500	521.1
3. Antiquities development	350	395.7
4. Loans issued	1,650	1,730.1
Total	**5,500**	**3,555.3(2)**

Source : Planning Bureau.

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(1) This amount included a provision of £2.5 mln. mainly for the " Golden Sands ", for which only a small amount was spent during the Plan period.

(2) During the period of the Second Plan, the Cyprus Development Bank approved loans totalling £3,899,000. Actual disbursements were £3,194,000. Out of this latter amount £2,016,000 were for the manufacturing industry, £1,016,000 for tourism development and £162,000 for other projects. Government assisted the C.D.B. with long-term credits totalling £700,000 and provided guarantees and other facilities for bond issues and other loans contracted by the Bank.

The reason why actual expenditure on major beach development projects has lagged behind the planned level of expenditure has been the delay in the planning and implementation of the Golden Sands Project in Famagusta. This is a major tourist complex and much time was needed for the preparatory work as well as for the international tender stage for its future exploitation.

The hotel financing policy was revised in 1970 in line with the overall policy of encouraging investment in hotel accommodation and with more favourable treatment being accorded to hill resort hotels. The period of repayment ranges from 5 to 20 years and the rates of interest charged are between 5% and 6% p.a. During the period of the Second Plan loan finance of the order of £1.73 mln. was provided from Government sources In addition, the Cyprus Development Bank, assisted by Government, has advanced loans amounting to over £1.0 mln.

(ii) OTHER INCENTIVES AND INDUCEMENTS

Besides direct public expenditures and loan finance, another incentive introduced in the latter half of the Second Plan was the leasing on a long-term basis of State land suitable for tourist development. The duration of these leases may extend up to a period of 99 years and the rent charged (on the basis of a formula adopted for this purpose) may vary from 2% to 5% of the current market value of the land. Up to the end of 1971, more than 30 major and over 60 minor cases had been examined for the granting on long-term leases of State land in coastal regions. A number of such agreements (over 20) have already been concluded or may be signed in the near future.

Other incentives included the continuation and extension of the scheme for the duty-free importation of a large number of items of hotel furniture and equipment and the increase of investment allowances from 10% to 25% in the case of hotel buildings. Another field, in which the contribution of the public sector has been significant, has been the training of personnel in hotel and catering trades through the establishment, as a joint project with the United Nations Development Programme, of the Hotel and Catering Institute. In addition to the regular courses for hotel and catering training, the Institute has introduced a programme of accelerated courses to fill urgent needs in trained personnel. During the period of the Second Plan the public hotel schools, including the Hotel and Catering Institute, the Central Hotel School and the Vocational School of Larnaca, have supplied the private sector with a total of 405 persons with basic and middle level training in hotel and catering trades. Out of this number, 112 persons have been trained as cooks, 221 as waiters, 48 as housekeepers and 24 as front-office personnel.

(iii) INSTITUTIONAL CHANGES—LEGISLATION

In line with the objectives of the Second Plan, the Government introduced legislation designed to create the institutional framework conducive to the orderly and rapid development of the tourist sector. The legislation includes the law for the establishment of the Cyprus Tourism Organization and the regulations thereunder and the law for the classification of hotels and other tourist establishments. This latter law is designed to assist in raising the standard of hotels and tourist services in general. New legislation was also enacted, but not yet enforced, for the regulation of tourist professions and associations (travel agencies, tourist guides, etc.). Moreover, in the latter half of the Second Plan period, a tourist zoning plan for the Kyrenia region was adopted and enforced.

The expenditure programmes and measures enumerated above include only those which are specific and are directly related to the tourist industry. Reference to other projects, schemes and policy measures indirectly related to the development of the tourist sector, e.g. roads, ports, airports and other infrastructural projects is made in other Chapters of the Plan document.

4. The Present Situation—Problems and Pressing Needs

In spite of the substantial increase of the tourist traffic and the progress made in the tourist sector, it does not follow that the task ahead will not be as heavy, if not heavier, than during the period of the Second Plan. Because they are of a long-term nature, a number of the problems and bottlenecks which existed at the beginning of the Second Plan are still operative. On the other hand, with the growth of the traffic and the expansion of the sector, new problems have come to the forefront and new needs have arisen. It would, therefore, be helpful to try to identify some of these problems and needs so as to demarcate the areas in which the emphasis should be placed during the period of the Third Plan. These can be summarized as follows :

(*a*) In the first place, it is essential to encourage investments in hotel accommodation so as to cater for the increasing traffic.

(*b*) The problem of heavy dependence for traffic on a very small number of countries still persists. The need here is to diversify the markets.

(*c*) In spite of the substantial improvement made during the Second Plan period, the problem of seasonality persists ; and so does the special problem of the hill resorts.

(*d*) There appears to be scope to expand the cruising traffic.

(*e*) The average size of hotel units is still relatively small. The same may also be true of certain other establishments dealing with tourism.

(*f*) There is the question of the regional concentration of hotels.

(*g*) The shortage of manpower and skilled personnel.

(*h*) There is a need for increased complementary tourist investment (for amusement, sports and recreation and other facilities which tourists expect to find).

(*i*) Scarcity of certain other types of tourist infrastructure (marinas, yacht harbours, green areas and parks).

(*j*) The need for furtheri mprovement of sea and air communications.

5. The Third Five-Year Plan, 1972-1976

The goals of tourist development must be formulated having regard to the strategic role of the tourist sector in the overall economy and the problems and bottlenecks identified above. These goals will also need to take into account the constraints imposed by the small size of the Island and must be reconciled with the desire for maximising the economic benefits from the tourist potential of the Island.

5.1 Objectives of the Third Plan

The main objectives to be pursued in the Third Plan will be :

(*a*) To attract increasing numbers of foreign tourists and excursionists.

(*b*) To expand local tourism particularly in the hill resorts.

(*c*) To increase the average length of stay.

(*d*) To diversify the composition of the traffic.

(*e*) To lengthen the tourist season and to minimise, as far as possible, the severity of the problem of the seasonal pattern of tourism faced by the hill resorts and other regions.

(*f*) To maintain relative price stability, especially for the items which enter the tourists' budget.

(*g*) To step up the infrastructural investments and most particularly those which are specific to the tourist sector.

(*h*) To encourage investment in hotel accommodation and in other ancillary facilities, so as to cater for the needs of the anticipated traffic.

(*i*) To introduce legislation for the regulation of essential activities in the tourist sector.

5.2 Targets of the Third Plan

The volume of the tourist traffic which could be attracted to Cyprus during the Third Plan period will depend, primarily, on the maintenance of conditions of stability in the Island, as well as of conditions of relative price competitiveness *vis-a-vis* other tourist centres. Certain other factors, however, may affect the growth of the sector, as for example, the ability of the sector to compete with other sectors in attracting the necessary resources for development, e.g. land, capital, and particularly labour, which will continue to be in short supply, and the overall capacity of the construction sector.

(i) FOREIGN VISITORS AND GROSS EARNINGS FROM TOURISM

On the basis of past trends and studies undertaken, Cyprus should aim, under normal conditions, to attain during the Third Plan a minimum of 20% p.a. growth rate in foreign tourist arrivals of long stay and an 8% p.a. growth rate in the arrivals of excursionists. The length of stay is assumed to be on the average 18 days per tourist and the average expenditure per tourist-day about £5, compared to 19.6 days and £3.800 mils respectively in 1971 (¹). In the case of earnings from excursionists these are computed on the basis of an estimate of £3.500 mils per visitor. The projections for the Third Plan are shown in Table 5.

(¹) The fact that the average length of stay in 1976 is less than that of 1971 is due to the assumed declining proportion of U.K. visitors, especially U.K. Cypriots, who tend to stay longer in the Island resulting from the acceleration of the growth rate of visitors from other countries.

The increase in the average expenditure per tourist-day accounts both for price and income increases.

TABLE 5 **Arrivals of Foreign Visitors and Gross Earnings from Tourism, 1971-1976**

	1971	1976	1972–1976 Annual Rate of Growth (%)
Arrivals of Tourists—No.	178,598	444,000	20
Arrivals of Excursionists—No.	129,301	190,000	8
Gross Earnings—£mln.	13.6	41.9	25.2

Source : Planning Bureau.

The growth rate of 20% per annum in the arrivals of foreign tourists is believed to be feasible and may even be surpassed if the hotel industry manages to achieve a higher occupancy rate through improved seasonality. It is expected that nearly 95% of tourist arrivals will come by air. The number of tourists in 1976 is expected to include a higher share of " holiday " visitors, than visitors for " business " purposes compared to 1971. The traffic in 1976 is anticipated to include a higher proportion of visitors from the Federal Republic of Germany, the Scandinavian Countries, France, Switzerland, the Netherlands and other European countries (other than the U.K.)

The bulk of the tourist traffic will choose to stay in coastal regions and will mainly be concentrated in Famagusta, Kyrenia and Limassol regions as well as in Nicosia. The seasonality problem is expected to improve by 1976 and it is assumed that the traffic will be more evenly spread over a ten-month instead of over an eight-month period. The preference of the bulk of foreign tourists is expected to be directed towards accommodation provided by 4 and 3-star hotels and to a lesser extent, to that provided by 5 and modern 2-star hotels. Out of the total volume of foreign tourist traffic a proportion of up to 15% is assumed to consist of visitors who will choose to stay in accommodation other than that provided by hotel establishments, e.g. tourist appartments and housing facilities provided by friends and relatives in Cyprus or owned appartments (e.g. U.K. Cypriots). The volume of the internal tourist traffic will increase still further and is expected to be directed mainly to the hill resorts.

(ii) HOTEL CAPACITY AND MANPOWER REQUIREMENTS

The underlying assumptions for the computation of the targets of the Plan for hotel capacity are that the break-even point of hotel enterprises is reached at 35% to 40% utilization of total bed capacity and that hotel enterprises will achieve a rate of capacity utilization of the order of 60%. This rate is consistent with the anticipated seasonality pattern and satisfies profitability criteria. Another assumption made is that the added pressure on hotel capacity from resident tourists will be offset by a corresponding reduction in demand for hotel accommodation from those foreign residents (mainly Cypriots) who choose to stay with friends and relatives. There is also the possibility that the excess pressure may be met through an expansion in the capacity of tourist appartments and private lodgings.

With regard to the targets for manpower requirements, the assumption is that there will be a gradual improvement compared to 1971 both from the point of view of bed-labour ratios and the level of skills. Taking these factors into consideration, the targets of the Third Plan have been computed as in Table 6.

TABLE 6

Hotel Capacity and Employment, 1971–1976

	1971	1976	1972–76 Annual Rate of Growth (%)
Total bed capacity—No. of beds	9,413	26,700(2)	23.2
Bed capacity under construction—No. of beds	5,598(1)	—	—
Additional bed capacity to be provided during the 1972–76 period—No. of beds	—	11,689(2)	—
Total number of persons to be employed—No. of persons	2,096	6,700(2)	26.2

Source : Planning Bureau.

The period of the Third Plan is expected to witness some diversification in the type of hotel establishment, away from the traditional towards the chalet-type, the small holiday village or resort, which combines accommodation with the provision of sports, recreation and small shopping facilities. The bulk of the additional bed capacity to be provided will belong to the 4 and 3-star class categories with some room left for a small number of additional 5-star de-luxe type hotels. The bulk of the additional hotel capacity will be concentrated in the Famagusta and Kyrenia regions which together will account for about 60% of the total hotel capacity to be installed. Judging from the interest shown by prospective investors, it is expected that the expansion of hotel accommodation will be relatively higher in the Kyrenia region. During the Third Plan period efforts will be made to arouse the interest of investors in favour of touristically less developed regions, such as Limassol, Larnaca and Paphos. The above projections of hotel capacity include an estimated number of 2,351 hotel beds in establishments which by the end of 1971 had not qualified for inclusion in the new hotel classification system. The overall investment necessary to increase hotel capacity and to expand complementary facilities in ancillary tourist services should be in the region of £27.5 mln. and £5.5 mln. respectively (at 1970 prices). Out of this total of £33 mln., it is estimated that Government will invest directly £3.8 mln. and will provide loan finance of the order of £4 mln.

As far as manpower is concerned, the problem of skilled personnel will continue to occupy Government's attention and every effort will be made by the hotel schools and training institutions to train new and upgrade existing staff. The output of such schools is planned to increase to 1,527 persons during the Third Plan period, compared with 470 during the period 1967–1971. Out of this figure, it is estimated that about 1,032 persons will receive training in Government institutions.

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(1) In 32 hotel units.

(2) Given a better seasonality pattern and a resulting higher occupancy rate, the requirements in bed capacity and manpower will be lower.

5.3 Means to Attain the Targets of the Plan—Policies and Measures

The attainment of the objectives and targets of the Third Plan will require co-ordinated action by the private and public sectors for the timely mobilization of human and material resources. The main policy measures to be pursued during the Third Plan period are outlined in subsequent paragraphs.

(i) PUBLICITY AND PROMOTION CAMPAIGNS—THE SEASONALITY PROBLEM

The main instrument which could influence the volume, seasonal pattern and composition of the tourist traffic is tourism publicity. Publicity campaigns include, mainly, the systematic advertising and public relations campaigns in selected countries, the participation of Cyprus in selected exhibitions, the development of the "excursionist" traffic and the organization of conferences, seminars and special events of cultural significance locally. The publicity campaigns will necessitate a more active financial participation on the part of the private sector, particularly, hoteliers and travel agents. The C.T.O. is expected to play a significant role in co-ordinating the publicity effort and to bring hoteliers and travel agents closer together in an effort to strengthen even further their ties with foreign tour operators.

First priority in the planning of the publicity and promotion campaigns should be accorded to those programmes which will aim towards reducing the severity of the seasonality problem. The seasonality problem could also be tackled to a certain extent through the development of resident tourism, the staggering of holidays, and the promotion of schemes for the subsidization of workers' holidays. It should be conceded, however, that final solution of the seasonality problem is a long-term task.

(ii) HOTEL PRICING POLICY

Hotel pricing at this stage is particularly important, because the Island is now beginning to enter the international tourist trade on a larger scale and will soon be facing strong competition from other tourist countries. It should thus be an aim of policy to maintain the relative competitive position of Cyprus *vis-a-vis* other countries. Hoteliers should also consider the possibility of selective seasonal price differentiation during off-peak seasons.

(iii) TRANSPORT AND COMMUNICATIONS

A tourist development policy should encompass among its objectives measures for the improvement of transport facilities (air, sea and road transportation facilities). Thus, the civil aviation policy should be so designed as to enable the diversification of the air communication network in close consultation with the national carrier. It should also be an aim of policy to reduce further the cost of travel to Cyprus through such devices as the inclusive tours, group fares and the differentiation of fares for night or off-season periods. It will also be necessary to improve the reception facilities and to minimize formalities and reduce delays at the arrival and departure of passengers. With regard to internal air communication, the possibility of introducing this facility between Nicosia and Paphos will be explored in the early stages of the Plan.

Although the rate of growth of foreign visitors arriving by sea is slowing down, it is anticipated that cruising passengers will be visiting Cyprus on an expanded scale. It is, therefore, necessary to expand and improve the reception facilities at the ports of entry. During the Third Plan the possibility of introducing a fast ferry-boat service between Cyprus and neighbouring countries will be studied. A study will also be made of the prospects of operating regular cruising trips around the Island as part of the excursion facilities to be offered to tourists. Cruising holiday-packages operating from neighbouring countries, which may include Cyprus in their itinerary, is another area to which attention will be directed during the Plan period.

The needs of tourism will be taken into account in the planning and execution of road projects. The Ten-Year Road Plan, to which reference is made elsewhere, will pay due regard to the more long-term needs of the tourist sector. This road network development programme will also incorporate in its criteria aesthetic considerations and the scenic appeal will be taken into account along with other socio-economic factors bearing on road policy.

(iv) ALLOCATION OF INVESTMENT

Investment will be allocated among the various uses so as to enable the attainment of the Plan targets. Priority will be given to the creation of the required hotel capacity, the establishment of ancillary services (sport and recreation amenities), and the implementation of necessary infrastructural projects. Besides certain direct investments, the policy of the public sector will be to encourage and support the industry with the necessary infrastructure through as far as possible multi-sector rather than single-sector projects and to create and maintain a climate conducive to the development of private initiative. It will also be an aim of the Government programme to identify and expose to potential investors promising areas with immediate prospects of development.

Foreign capital will be encouraged to participate in tourist ventures as a supplementary source of finance. Such participation is expected to bring added technical know-how and future tourist traffic. Each case will be examined on its own merits, but the general policy objective will be to encourage the formation of joint ventures.

The investment programme will be co-ordinated and guided in such a way as to ensure a rational distribution of expenditure, firstly, as between various types of investment, secondly, as regards regional distribution (coastal areas, hill resorts, urban centres) and thirdly, from the point of view of timing of execution of projects.

The existing Government policy of hotel financing will be reviewed so as to take account of the new priorities of the Third Plan. The aim will be to lay increased emphasis on the larger-sized units, which preferably combine the provision of sports and other recreation facilities, and which belong to the 4, 3 and 5-star categories. In the case of hill resorts, the policy will cover smaller-sized units and will include 2-star modern establishments.

(v) MANPOWER AND TRAINING POLICIES

In the field of manpower resources the policy will be to attract additional labour at the required levels of skills and to expand the ordinary and accelerated training programmes offered. Sources of supply of personnel which might be tapped include Cypriots employed in hotel and catering establishments abroad and the economically inactive female population.

The training facilities offered in Cyprus in the hotel and catering trades need to be expanded, particularly for waiters and housekeepers. At the same time, programmes should be introduced for upgrading of skills. Hoteliers themselves could introduce scholarship programmes for the training of Cypriots in hotel management courses. Because of the urgent need to provide additional skilled personnel, the Government will encourage further the accelerated training courses for *ab-initio* training to be offered by the existing Hotel Schools and the Institute. The co-ordination machinery for the planning and implementation of training courses in the hotel and catering trades through Government sponsored schemes and private schools will be strengthened. Government training courses will be expanded to encompass hotel management techniques and travel agency practices for owners and managers of hotels and travel agencies. The Cyprus Tourist Organization will continue on a larger scale the courses for tourist guides.

With some minor exceptions, the Government has hitherto shouldered the financial burden for the provision of training facilities. However, in view of the increased cost of training and the need to divert resources to competing tourist needs, the existing basis of financing the cost of training courses will be reviewed. An Island-wide approach to the problem of planning and financing vocational training courses under a centrally administered system is needed, but this is discussed in Chapter 20.

5.4 Antiquities Development

Development activity will concentrate on ancient sites and monuments. The Third Plan period will also witness an increased emphasis on the embellishment of existing monuments, in line with the regional priorities set in the tourism plan. An inventory of the archaeological treasures of the country will be prepared, which will be revised annually, as new knowledge and information comes to light. The laws applicable to illegal possession and disposal of articles of archaeological value will be enforced more strictly and more effective control will be exercised on the treasures now in store in private collections. The antiquities development policy will continue to aim towards the attraction of foreign missions to carry excavations for the discovery of ancient sites. It will also be nesessary to expand and improve the capacity of Museums for the proper preservation and presentation of archaeological findings.

5.5 The Government Sector—Programmes and Incentives

In support of the above policies the Government will undertake schemes and will provide assistance of a direct and indirect benefit to the tourist sector. Government measures of direct relevance to tourism will take the form of an expanded public expenditure programme, incentive schemes and legislative action.

(i) The Public Expenditure Programme

Development expenditures allocated to the tourist sector (including antiquities) during the Third Plan period are of the order of £9.7 mln., out of which just over 37% will be for Government tourist projects. A breakdown of the allocated expenditure is given in Table 7.

TABLE 7

Planned Development Expenditures, 1972–1976

Item of Expenditure	£000's
1. Major Tourist Projects	3,500
2. Minor Tourist Projects	100
3. Tourist Publicity, Promotion and Related Programmes	850
4. Administration, Supervision and Control	450
5. Antiquities Development	800
6. Government Tourist Loans	4,000
Total Government Expenditure	**9,700** (1)

Source : Planning Bureau.

The bulk of the proposed expenditure will be utilized for the implementation of new projects. It is estimated that a sum of nearly £3 mln. will be spent on the " Golden Sands " tourist complex in Famagusta which is expected to be completed in the latter half of 1973. The project will be of 956 operational beds capacity combining ancillary service facilities, such as beach development, sports and other embellishment works. Two other major projects involve the development of the Pakhyammos and Alakati sites in Kyrenia, which will be supplied with basic infrastructure facilities, e.g. electricity, water, telephone lines and road accesses. The former site has already been leased on a long-term basis to a private investor, who has undertaken to construct a tourist complex of 600 beds capacity in the first phase, in addition to the provision of ancillary facilities. It is expected that during the Third Plan period Government will dispose on the basis of a long-term lease the Alakati site, which will form another tourist centre east of Kyrenia.

Government will also invest in the expansion of complementary tourist facilities, and more particularly, of parks, playgrounds, sports and other recreation facilities. A number of such schemes are programmed : One involves the development of the " Dasoudhi " site in Limassol, which is intended to be turned into a major beach and recreation area to serve the public and the tourists in that region. The " Troodos square " site will be developed for the same purpose to serve the needs of the major hill resorts. Another project involves the embellishment of the " Salamis " site in Famagusta, to be able to serve as the main centre for the organization of an annual art festival of high quality. The balance of the provision will be used mainly for tourist publicity and promotion campaigns, and for administration, supervision and regulation. Antiquities development will cover schemes for the continuation of excavations, the reconstruction, restoration and preservation of ancient monuments, the expansion and improvement of museums and other related schemes.

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(1) In addition £1.5 mln. will be channelled to the C.D.B. for industrial and tourist loans. During the period of the Third Plan it is estimated that the C.D.B. will grant loans totalling £8.4 mln., out of which £3.5 mln. will be for tourism development.

The programme will be flexible in order to accommodate the changing needs of the sector. The actual size of the programme will ultimately depend to an appreciable extent on the response of the private sector. It is also intended to exert every effort to co-ordinate these expenditures with those planned for other fields, especially those connected with the supply of basic facilities, e.g., roads, water supply. electricity, sewerage and telephone services. Early in the Third Plan period, the provision for the imposition of a levy by the C.T.O. will be enforced. This will enable the C.T.O. to establish independent sources of finance. Along with the expenditure programme, the Government will continue to provide the necessary incentives for the encouragement and promotion of the industry.

(ii) INCENTIVES TO THE TOURIST INDUSTRY

Hotel Financing : As mentioned in earlier paragraphs, Government will continue its policy of supplementing the financial resources of the private sector through direct long-term loans at low interest rates. A revision of the hotel financing policy is, however, thought to be necessary in order to take account of the changing needs and priorities of the industry. New criteria which should be considered are the size and class of hotel, region, maximum loan component, repayment period, technical competence and financial needs of the applicant and the comparative merits of financing new as opposed to expanding and modernizing existing establishments. Priority will be accorded to coastal regions not far away from urban centres and preferably regions with a high tourist potential which have not yet been exploited. This does not mean that other regions will be abandoned. In the case of hill resorts priority will be given to the expansion and improvement of existing establishments.

The total Government loan finance has been fixed at £4 mln. and the supply of these funds will be co-ordinated with the hotel financing scheme of the Cyprus Development Bank. But the exact size of funds to be allocated annually will have to take also into account the needs of the policy for the short-term management of the economy.

State land : The scheme for the disposal to potential investors of State land suitable for tourist development will be continued. Priority will continue to be accorded to those investors who satisfy certain criteria concerning size of investment, know-how, financial standing, ability to attract additional tourist traffic, size of capital inflow from abroad in the case of foreign ventures, degree to which the plans meet the standards set, etc.

Tax Incentives : The improved tax incentives introduced during the period of the Second Plan will be continued and so will the scheme for the duty-free importation of a large number of items of hotel furniture and equipment. This latter scheme will be kept under constant review and may be expanded if necessary. On the other hand it may be found desirable in certain cases to modify the scheme so as to promote the use of locally produced items of an international quality standard.

Institutional Changes—Legislation : Efforts to improve the institutional and legal framework within which the tourist industry operates will be continued. Areas which may be brought under legislative regulation during the Third Plan period are : The preparation of regulations for the supervision and control of accommodation facilities other than hotel accommodation, e.g. tourist appartment houses (service flats) hostels and camping sites ; the registration, supervision and regulation of travel agencies and tourist professions ; also legislation for the registration and supervision of catering establishments to serve the needs of tourism may have to be introduced. It is also expected that matters relating to the establishment of tourist zones will be tackled more effectively with the enactment of the Town and Country Planning Law.

CHAPTER 14

TRADE AND MARKETING

1. Importance of the Trade Sector

During the last twenty years, the Cyprus economy has been characterised by the existence of a large trading sector. In the 1950's, because local production was not at all sufficient to meet local demand, rising incomes, due mainly to external injections to the economy, were directed towards imports. The latter rose from £13.5 mln. in 1950 to £37.1 mln. in 1960 (¹). Total exports amounted to £19.2 mln. in 1960 compared to £11.1 mln. in 1950 (²). External trade in 1960 accounted for 57.7% of G.N.P.

During the past decade, total imports increased from £37.1 mln. in 1960 to £106.9 mln. in 1971 and exports rose from £19.2 mln. in 1960 to £47.3 mln. in 1971. Total external trade in 1971 accounted for 59.4% of G.N.P.

The importance of the trade sector lies in the contribution it makes to G.D.P. and employment and in its crucial role in determining the external account of the country. Apart from its direct contribution to G.D.P., its primary significance lies in the fact that it facilitates and induces indirectly local production, through the provision of the right inputs (raw materials and capital goods) at the right time and through the successful distribution of the intermediary and final products. Moreover, the trade sector contributes to the enhancement of the welfare of the people through the satisfaction of consumption needs. Its proper functioning, therefore, could be instrumental in the advancement of economic development and social welfare in general. Finally, the sector plays a leading role in the formation of the general price level and especially the retail prices of consumer and other goods since the costs of distribution usually represent a high proportion of the final prices. An efficient distributive sector could have a dampening effect on prices in general.

2. Developments during the Second Plan, 1967–1971

2.1 Wholesale and Retail Trade

(a) Value Added

Wholesale and retail trade is an important sector both in terms of value added and employment. Value added in this sector increased from £20.7 mln. in 1966 to £32.4 mln. in 1971 (at constant factor cost of 1966). Thus, the annual rate of growth attained during the Second Plan is estimated at 9.4%, which is higher than the 8.2% annual rate of growth adopted in the Plan. The share of wholesale and retail trade in G.D.P. has increased from 15.0% in 1966 to 15.6% in 1971.

(b) Employment and Productivity

In 1966 the distributive trades employed 18,517 persons or one in twelve of the total gainfully employed population ; and this figure rose

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(¹) C.i.f. excluding N.A.A.F.I. imports.

(²) F.o.b. including re-exports.

to 21,600 or one in eleven in 1971. The rise in employment was in the region of 3.1% p.a. The fact that value added rose by 9.4% p.a., indicates a substantial increase in output per person employed, estimated at 6.1% p.a. As this sector absorbs a sizeable proportion of manpower, increases in productivity are of considerable importance.

(*c*) *Fixed Investment*

During the period of the Second Plan investment in the trade sector amounted to £10.7 mln., at constant 1966 prices. Investment in the form of construction work took the largest part, £4.8 mln. or 45.2% of the total. Purchases of machinery and equipment constituted 31.3% and the remainder 23.5% was invested in transport equipment.

2.2 Marketing Sector

Under the wholesale and retail trade sector reference needs to be made to such trading organizations and institutions as the Co-operatives, the Marketing Boards, the Grain Commission and the Vine Products Commission.

(*a*) *The Co-operative Movement*

In 1966 there were 939 co-operative societies with a total membership of 210,572 individual members and 1,446 member societies. By 1971 the number of co-operative societies fell to 863, but their membership in terms of individuals and member societies rose to 250,382 and 1,860 respectively. The fall in the number of co-operative societies was partly due to the dissolution of a number of handicraft co-operative societies and partly to the continued amalgamation of consumer with credit societies.

The co-operative movement extends its operations not only to the marketing of agricultural products (raw or processed) both locally and abroad, but also to the supply of manufactured goods, agricultural inputs etc. In the field of marketing, the co-operative movement has been successful in disposing the major part of some key agricultural products. Among others, co-operative marketing covers the following percentages of total production : over 90% of tobacco, 30% of citrus fruit, 70% of carobs and 20% of vine products. Co-operatives also market small quantities of beet-roots, melons, almonds, apples and fodder legumes.

(*b*) *Marketing Boards and Other Institutions*

Two more marketing boards one for olive oil and another for dairy products were established during the period of the Second Plan.

The Olive Oil Marketing Board was set up in 1968 to promote the sale and standardization of olive oil. Progress has, however, been rather slow. The Dairy Products Marketing Board was set up in 1969 to assist milk producers in the disposal of their products. This board also is encountering marketing problems because of the inability of local industries to absorb all the production of fresh milk. The situation is aggravated by the relatively low level of consumer demand for fresh milk stemming both from high prices and consumer preference for condensed milk.

The Potato and Carrot Marketing Boards, whose existence dates back to the First Five-Year Plan, have been successful in maintaining a satisfactory and rather stable level of prices and in marketing all exportable quantities of potatoes and carrots.

Mention must also be made of the Grain Commission and the Vine Products Commission. The Grain Commission, whose main function is the concentration and marketing of cereals, is in need of suitable storage capacity. The Commission has plans to go ahead with the erection of a port-based silo for the storage of imported grains and other storage facilities in certain areas.

The Vine Products Commission has responsibility for the marketing of vine products (raisins and raw grape alcohol). It also administers the Government's subsidization scheme for vine products. The main problem here stems from overproduction and international competition.

2.3 External Trade

As already mentioned, the trade sector has a crucial role to play in determining the balance of payments position and its structure. Its significance has been further enhanced during the Second Plan as a result of the export promotion policies adopted and the continuation of the import substitution efforts.

(a) Foreign Trade and Economic Relations

The evolution of foreign trade in aggregate terms during the period 1966–1971 is depicted in Table 1. The table illustrates the importance of foreign trade to the economy and shows that the country has a high per capita import and export trade typical of a small-sized economy. After a slow start in 1967, both imports and exports increased substantially thereafter falling off again in 1971. For the period 1967–71 as a whole imports were increasing faster than exports and the trade deficit was deteriorating.

TABLE 1

Cyprus Foreign Trade, 1966–1971

Year	Imports(1)		Exports(2)		Per Capita(£)		% of Gross National Product		
	Total £mln.	Increase %	Total £mln.	Increase %	Imports	Exports	Imports	Exports	Total
1966 ..	55.4	—	29.2	—	92.0	48.5	36.0	19.0	55.0
1967 ..	59.7	7.8	29.8	2.1	97.7	48.8	34.7	17.3	52.0
1968 ..	70.9	18.8	37.0	24.2	114.7	59.9	38.0	19.8	57.8
1969 ..	86.5	22.0	40.9	10.5	138.4	65.4	40.5	19.1	59.6
1970 ..	98.2	13.5	45.2	10.5	155.1	71.4	43.0	19.8	62.8
1971 ..	106.9	8.9	47.3	4.6	167.3	74.0	41.2	18.2	59.4

Source : Department of Statistics and Research, Planning Bureau.

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(1) C.i.f. excluding N.A.A.F.I. imports.

(2) F.o.b. including re-exports.

Because of the small size of the country and the limited resource endowment, Cyprus depends heavily on international trade. In fact the dependence of the economy on foreign trade, especially on imports, has increased during this period, the ratio of foreign trade to G.N.P. having risen from 55% in 1966 to 59.4% in 1971.

(i) MERCHANDISE EXPORTS

During the Second Plan period total merchandise exports (including re-exports) increased from £29.2 mln. in 1966 to £47.3 mln. in 1971 or at a rate of 10.1% per annum. Had there been no fall in mineral exports in 1971, the export performance would have been much better. Total domestic exports alone increased from £27.2 mln. in 1966 to £42.1 mln. in 1971, i.e. at an annual rate of 9.1%. The most dynamic products from the point of view of export performance have been : citrus fruit, grapes, potatoes, wine and grapemust, alcoholic beverages, asbestos and other (including other manufactured goods). Domestic exports are dominated by exports of agricultural products, whether in raw material form or processed, and minerals (Table 2).

Structure of Domestic Exports, 1966–1971

(F.o.b.—£mln.)

TABLE 2

Year	Total Domestic Exports	Agricultural Products			Mineral	Other	% of Total Exports		
		Total	Raw Materials	Processed			Agricultural	Mineral	Other
1966	27.2	14.4	10.1	4.3	12.2	0.6	52.9	44.9	2.2
1967	27.3	17.3	12.7	4.6	8.9	1.1	63.4	32.6	4.0
1968	34.1	20.5	14.5	6.0	12.2	1.4	60.1	35.8	4.1
1969	36.8	23.3	16.7	6.6	12.0	1.5	63.3	32.6	4.1
1970	40.0	23.6	17.5	6.1	14.0	2.4	59.0	35.0	6.0
1971	42.1	29.2	21.8	7.4	9.5	3.4	69.3	22.6	8.1

Source : Department of Statistics and Research, Planning Bureau.

As will be seen from Table 2 agricultural and mineral products together accounted for between 92% and 98% of total domestic exports. The share of minerals has been decreasing, whereas that of agricultural products has been on the increase, with some yearly fluctuations. This trend has been consistently followed ever since Independence. On the other hand, the combined share of these products in domestic exports has been reduced from about 98% in 1966 to 92% in 1971, while exports of other products, especially manufactured goods, have improved their position. It should also be noted in this connection that more agricultural products are now exported in a processed form, although the bulk of agricultural exports is still in raw material state.

(ii) MERCHANDISE IMPORTS

As it is shown in Table 3, during the period of the Second Plan, important changes have taken place in the structure of imports. Although imports as a whole have been increasing at a fast pace their composition has markedly improved. Consumer good imports have declined in relative importance from 35.5% of total imports in 1966 to 32.9% in 1971. More importantly, imports of non-durable consumer goods (food, beverages, tobacco, etc.) have been declining, a trend indicating the growing ability of the economy to satisfy an increasing part of rising local demand. On the other hand, imports of capital goods have increased their share in total imports while raw materials have maintained a stable share of about 35%. An increasing share of imports of capital goods has been going to industry to meet the requirements of industrialization, while in the case of raw materials the booming construction industry has been absorbing increasing quantities of these imports. These structural changes in the composition of imports were anticipated as a normal development during this stage of expansion of the productive capacity of the economy. Despite the above healthy developments there is still room for further reduction in consumer good imports.

Imports by Economic Destination, 1966–1971(¹)

(C.i.f.—% shares)

TABLE 3

	1966	1967	1968	1969	1970	1971
A. Consumer Goods	**35.5**	**35.7**	**32.1**	**32.7**	**29.9**	**32.9**
1. Non-durable	25.0	24.3	21.8	21.2	19.6	20.5
Food, beverages & tobacco	13.3	12.9	9.6	9.2	8.3	8.7
Other	11.7	11.4	12.2	12.0	11.3	11.8
2. Durable	10.5	11.4	10.3	11.5	10.3	12.4
B. Raw Materials	**35.1**	**34.5**	**34.9**	**34.3**	**36.2**	**34.8**
1. Agricultural	6.2	4.5	6.4	4.8	5.0	5.0
2. Industrial	23.1	24.4	21.9	22.3	23.6	22.0
3. Construction	5.8	5.6	6.6	7.2	7.6	7.8
C. Capital Goods	**20.5**	**20.3**	**21.6**	**23.3**	**24.5**	**22.0**
1. Industrial	11.3	10.9	13.3	12.1	13.2	13.6
2. Agricultural	2.1	2.2	1.8	2.0	1.5	1.8
3. Transport & Communication	7.1	7.2	6.5	9.2	9.8	6.6
D. Fuels and Lubricants	**6.9**	**7.4**	**8.4**	**7.3**	**7.1**	**8.0**
E. Unclassified	**2.0**	**2.1**	**3.0**	**2.4**	**2.3**	**2.3**
Total Imports	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source : Central Bank of Cyprus and Department of Statistics and Research.

(*b*) *Direction of Foreign Trade*

During the period under consideration the direction of foreign trade has undergone certain changes (Table 4). The U.K. has continued to be the major market for our exports, absorbing 39.4% of the total in the period 1967–1971. Dependence on the U.K. as a market for Cyprus exports was higher in 1971 than in 1966. In 1971 the U.K. absorbed 41.6% of our exports compared to 32.5% in 1966. This is mainly to be attributed to the preferential treatment which Cyprus exports have enjoyed in the U.K. market, especially in the case of agricultural products, whose expansion was most rapid in recent years. Similarly, the U.K. has been

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(¹) Excluding N.A.A.F.I. imports.

the major source of Cyprus imports accounting for 31% of the total in the period 1967–71. Its share, however, fell from 31.8% in 1966 to 28.7% in 1971.

The E.E.C. Countries are the second largest export market for Cyprus products. In the period 1967–1971 these accounted for 28.5% of our exports, but their share fluctuated depending on the value of mineral exports which go mostly to the E.E.C. Countries. There was, however, a tendency for the share of Cyprus exports to E.E.C. Countries to fall relatively to that of other countries. In 1966 their share stood at 31.5%, falling to 24% in 1971. The share of imports on the other hand has remained relatively stable ranging between 28–29%. Both the share of exports to and imports from the E.E.C. countries are expected to improve during the Third Plan as a result of the association of Cyprus with the E.E.C.

Trade with East European Countries(1), under clearing type agreements, has remained relatively stable over this period. In 1966 Cyprus external trade with these countries accounted for 7.7% of the total, rising only slightly to 8% in 1971. The share of exports to these countries fell from 11% in 1966 to 10.3% in 1971. On the other hand, there was an increase in the share of imports originating from them from 6% to 7% respectively.

Distribution of Cyprus Foreign Trade, 1966–1971

TABLE 4

(%)

	1966		1971		Total 1967–1971	
	I	E	I	E	I	E
United Kingdom	31.8	32.5	28.7	41.6	31.0	39.4
E.E.C. Countries (2)	28.3	31.5	28.7	24.0	28.1	28.5
Eastern Countries (3)	6.0	11.0	7.0	10.3	6.7	10.5
Rest of the World	33.9	25.0	35.6	24.1	34.2	21.6

Source : Department of Statistics and Research.

(i) Direction of Principal Exports

The distribution of Cyprus principal domestic exports by product and country of destination is presented in Table 5. By far the most important market for Cyprus oranges is that of the U.K. which has increased its share ever since 1966 at the expense of East European and E.E.C. Countries. In 1971 exports of oranges to E.E.C. Countries were exceptionally high due to the poor harvest of Spanish orchards, the main supplier of E.E.C. Countries. Exports of Cyprus oranges to E.E.C. Countries are expected to increase after the tariff reduction of 40% provided under the Association Agreement concluded between Cyprus and the Community. As shown in Table 5, there is a growing market for oranges in countries other than those referred to above, especially in Northern Europe—Finland, Norway, Denmark—as well as Ireland and Austria.

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(1) U.S.S.R., Romania, Poland, Hungary, German Democratic Republic, Czechoslovakia and Bulgaria.

(2) Federal Republic of Germany, France, Italy, Belgium, Netherlands and Luxembourg.

(3) Those with Bilateral Trade Agreements.
I=Imports (c.i.f.), E=Exports (f.o.b.).

Britain and Eastern Europe as markets for our lemons have been declining and an increasing share is now going to E.E.C. Countries and especially France, which in 1971 absorbed 46.9% of the total value of Cyprus shipments of lemons abroad compared to 41.5% in 1966. The Netherlands also are a growing market for Cyprus lemons. The E.E.C. Countries as a market for Cyprus lemons is growing on account of the comparatively low tariff on imports of lemons (8%) and because of the high quality of the produce. This development is expected to be stepped up in view of the association of Cyprus with the E.E.C.

The single largest markets for grapefruit are those of the U.K. and the Federal Republic of Germany, which in 1970 accounted for 49.1% and 23.6% respectively of Cyprus exports. In 1971 the share of the British market was exceptionally high, 68.9%, and that of the Federal Republic of Germany low, 7.7%, because of the high prices obtaining in the British market. Nevertheless, there is a discernible upward trend for grapefruit exports to E.E.C. Countries. The increasing exports of grapefruit to the E.E.C. Countries can be explained by the low tariff levied on imports (6%), and the negligible production of grapefruit in these countries. Grapefruit exports will also benefit from a tariff reduction of 40% as from 1973 which will improve further the export prospects to these countries.

Distribution of Cyprus Principal Domestic Exports by Product and Country of Destination

TABLE 5

(%)

Product Group	U.K.		E.E.C.		Eastern Countries		Rest of the World	
	1966	1971	1966	1971	1966	1971	1966	1971
Oranges	25.4	35.6	22.2	23.7	40.5	22.1	11.9	18.6
Lemons	37.9	32.0	42.2	53.2	17.7	8.3	2.2	6.5
Grapefruit	54.8	68.9	25.7	20.6	15.1	2.8	4.4	7.7
Potatoes(1)	85.9	87.1	—	—	11.7	3.2	2.4	9.7
Carrots	100.0	100.0	—	—	—	—	—	—
Fresh grapes	81.7	88.2	—	—	—	—	18.3	11.8
Wines (2)	68.9	74.1	10.5	1.1	4.3	8.8	16.3	16.0
Tobacco	13.8	10.6	12.6	4.7	15.8	52.0	57.8	32.7
Carobs(3)	95.3	46.1	—	41.2	—	—	4.7	12.7
Minerals	5.1	6.4	61.0	69.1	—	0.5	33.9	24.0

Source : Department of Statistics and Research, Planning Bureau.

The U.K. is also the sole market for Cyprus carrots and the single largest market for potatoes, fresh grapes and wines. The share of potato exports to the U.K. rose from 85.9% in 1966 to 87.1% in 1971. Small quantities of potatoes are also shipped to the German Democratic Republic and to some Middle East Countries. The share of the U.K. for fresh grapes has also improved since 1966.

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(1) **Food potatoes only.**

(2) **Including grapemust.**

(3) **Whole or kibbled only.**

Some exports of fresh grapes also go to Finland, Norway, Sweden and the Federal Republic of Germany and although their share is relatively small it could be expanded. Wine exports have found their way mainly to the U.K. market. In 1971 this market accounted for 74.0% of our wine exports compared to 69% in 1966. Such exports, however, may face difficulties in the near future as a result of the adoption by the U.K. of the E.E.C. reference prices and other Common Market rules. The E.E.C. market for Cyprus wine is now small, while that of Eastern Countries and especially the German Democratic Republic, after a good start in the period 1967–1969, is now showing signs of levelling off. Wine exports to Sweden have been growing steadily and its share in 1971 was 4.6% in contrast with 1.1% in 1966.

The market for Cyprus tobacco is now dominated by the East European Countries—U.S.S.R. and German Democratic Republic—whose share rose from 15.8% in 1966 to 52% in 1971. This was achieved at the expense of the U.K., E.E.C. and other markets whose share has diminished compared to 1966. Among the E.E.C. Countries importing worthwhile quantities of tobacco are those of the Netherlands and the Federal Republic of Germany. Other countries include the U.S.A. and Egypt which in 1971 purchased 15.8% and 8% of total tobacco exports respectively.

The importance of the U.K. as a market for our carobs has been progressively declining in favour of E.E.C. Countries (Italy and France), Sweden and the U.S.A. The share of the U.K. market fell from 95.3% in 1966 to 46.1% in 1971, while that of E.E.C. Countries rose to 41.2% and that of other countries to 12.7% in 1971. The share of E.E.C. Countries is expected to improve further as a result of the abolition of the import duty as from 1973.

As regards mineral exports, the major market has been the E.E.C. and particularly the Federal Republic of Germany, which since 1968 has been importing all quantities of copper cement and more than half of the production of cupreous concentrates. The share of the E.E.C. Countries, although fluctuating, is on the increase, having risen from 61% in 1966 to 69.1% in 1971. The share of the U.K., which imports mainly iron pyrites and asbestos, is also rising while that of Spain (cupreous concentrates) and Japan (asbestos) are falling.

With regard to exports of manufactured products proper, the main exportable items are footwear and clothing. The largest single market for Cyprus footwear is the U.K., followed by Bulgaria and Canada. Considerable quantities of footwear are also exported to Middle East Countries, particularly Libya, Saudi Arabia, Kuwait and Bahrain. Smaller quantities are exported to U.S.A. and African countries. Recently, the F. R. of Germany and Sweden have shown interest in Cyprus footwear and some quantities have already been exported to these countries. The largest single market for Cyprus clothing is Libya, followed by Romania, Kuwait and the U.K. Considerable quantitites of clothing are also exported to Bulgaria and the Arabian Gulf. The F. R. of Germany and Zambia have also shown interest and it is expected that trade in a wide range of items will develop considerably.

(ii) ORIGIN OF IMPORTS

As far as the distribution of Cyprus imports by country of origin is concerned, the picture emerges as follows (Table 6).

Percentage Share of Cyprus Imports by Country of Origin, 1966 and 1971

TABLE 6

(%)

Section	U.K.		E.E.C.		Eastern Europe		Rest of the World	
	1966	1971	1966	1971	1966	1971	1966	1971
0. Food	22.5	16.4	13.9	14.9	5.0	5.7	58.6	63.0
1. Beverages & tobacco	21.5	27.7	6.4	11.5	0.1	0.2	72.0	60.6
2. Crude materials	7.1	5.4	5.9	6.4	29.0	35.6	58.0	52.6
3. Mineral fuels, etc.	7.3	7.5	40.7	64.4	15.6	16.2	36.4	11.9
4. Animal & vegetable oils	2.9	5.6	65.8	36.1	1.2	14.2	30.1	44.1
5. Chemicals	29.8	30.2	37.9	34.2	3.3	1.2	29.0	34.4
6. Manufactured goods	27.1	26.5	32.5	25.9	7.5	8.8	32.9	38.8
7. Machinery & transport equipment	49.9	43.0	28.9	32.4	3.1	3.3	18.1	21.3
8. Miscellaneous manufactured articles	38.5	33.0	25.6	22.5	3.9	3.3	32.0	41.2
9. Goods, n.e.s.	67.6	54.4	9.0	1.7	1.8	0.3	21.6	43.6

Source : Department of Statistics and Research, Planning Bureau.

The U.K. is still the single largest source of Cyprus imports of chemicals, manufactured goods, machinery and transport equipment and miscellaneous manufactured articles. However, the share of the latter three imported items fell in 1971 compared to that of 1966 which indicates that imports from other countries rose relatively faster than imports from the U.K. In fact the position of the U.K. as the main supplier of these items has been challenged by countries such as Japan, U.S.A., Greece, Sweden, Spain, etc.

The share of the E.E.C. Countries has fallen in the case of manufactured goods but risen in the case of machinery and transport equipment. The share of East European Countries in the supply of these items is small at the moment, but it is growing rapidly for manufactured goods and at a slower pace for machinery and transport equipment.

The U.S.A. continues to be the main supplier of Cyprus imports of beverages and tobacco accounting for 38.8% of imports in 1971. The second largest supplier is the U.K. with 27.7% of the market. Both these countries as well as those of E.E.C. and Eastern Europe have improved their share in the Cyprus market.

In the case of crude material imports, the U.S.S.R. continues to be the major source of supply. The share of imports originating from Eastern Europe has shown the highest increase ; this rose from 29% in 1966 to 35.6% in 1971. The share of the U.K. fell while that of E.E.C. Countries rose slightly ; the share of the remaining countries as a whole declined.

Imports of mineral fuel and lubricants have increased rapidly from the E.E.C. Countries—Italy and the Netherlands—which continue to be our main suppliers. The shares of the U.K. and Eastern Europe rose slightly, and there was a fall in the share of the remaining countries and especially Spain, Greece and the U.S.A.

Finally, the E.E.C. Countries (the Netherlands and France) as a source of supply for animal and vegetable oils has declined and increasing supplies are now imported from Sweden, Spain, Romania and the U.K.

(*c*) *External Trade Policy*

During the Second Plan period, the policy of import substitution continued, but heavier emphasis started to be placed on export promotion. Export orientation, however, is closely linked with the restructuring and modernization of the economy, increased production, improvement of technology and productivity, reduction in costs and, most importantly, improvement in the quality of products, all of which need time. Yet, the emphasis on export promotion has already started yielding results. The actual annual rate of growth of exports (10.4% p.a.) has been higher than the one anticipated in the Second Plan (8.9% p.a.)(¹) despite the retarding influence of the poor export performance of minerals in 1971.

In an effort to promote exports, various steps were taken ranging from readjustments of tariffs to the conclusion of trade agreements. The amendment of the tariff structure was designed to enable the development and to enhance the competitiveness of local industry. Thus, in many cases the duty on imported raw materials and capital equipment was reduced or eliminated and the tariffs on competing imports were raised for protective purposes.

Similarly, the practice of refunding the duty on materials used in the manufacture of goods exported was continued and procedures were simplified.

Bilateral trade agreements of the clearing type were renewed in some cases on a five year basis.

Moreover, the participation in international fairs and exhibitions was continued and so was the use of various other measures, such as trade missions and delegations, advertising, preparation of export directories, market research, export information and inspection services, operation of a trade centre in London, etc.

The possibility of introducing an export credit guarantee system for priority products has been studied. The produce inspection service was strengthened further and the regulations governing quality, packaging, etc. have continued to be strictly enforced. Expert advice was sought on packaging as well as on the establishment of a Standards Institute with a view to assisting local industries in their efforts to improve the quality and standardization of their products.

Government development expenditure in the trade and marketing sector amounted to £808,000 out of which about £229,000 went on general trade publicity and promotion and about £166,000 on wine publicity.

3. Problems of the Wholesale and Retail Trade

3.1 General

Until recently in many countries the distributive sectors were relatively neglected from the point of view of economic study. One of the main

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(¹) Balance of Payments definition.

reasons for this is to be attributed to the practical difficulties encountered in studying the sectors. The distributive process does not lend itself to adequate quantitative measurement so that the basic inputs for such studies are not readily available. However, in view of its importance an attempt has been made to analyse the present situation of the sector in Cyprus and to make certain suggestions for its future more efficient re-organization relying on whatever scanty information it has been possible to collect.

As already said, the cost of distribution constitutes an important element of the price structure. In the case of Cyprus the results of a preliminary survey indicate the existence of a wide divergence between producers' and retail prices. This situation calls for action to effect those changes and improvements which are necessary to enhance productivity and minimize unnecessary waste of resources in the distributive process. Such improvements could not only reduce the cost of distribution, but may also lead to increased efficiency in production and to welcome developments in the trade account. During the period of the Third Plan, the Government will undertake a more detailed study of these issues.

3.2 Structure of the Sector

The structure of the sector is characterized by the existence of a multitude of small trading establishments. Thus, in 1969 while the small wholesale and retail shops employing less than five persons accounted for 94.4% of the total number of such shops and for 61.3% of the total labour force engaged in the sector, their share in the total turnover was only 37.2%. Table 7 shows that the number of establishments and persons engaged per 1,000 of the population is comparatively high especially in the retail trade. It will also be seen that due to the smallness of retail shops their per capita turnover is relatively low compared to wholesale shops.

TABLE 7

Some Structural Characteristics of the Trade Sector(1)

Year	Number of shops per 1000 of population			Number of persons engaged per 1000 of population			Turnover per capita (£000's)		
	Wholesale	Retail	Total	Wholesale	Retail	Total	Wholesale	Retail	Total
1967 ..	1.3	13.2	14.5	8.9	24.5	33.4	12.4	5.1	7.0
1969 ..	1.3	12.9	14.2	9.0	24.5	33.5	14.1	5.9	8.1

Source : Census of Distribution, 1967, and Distribution Survey, 1969.

A more detailed examination of available statistics reveals the following :

(i) The majority of the enterprises consists of small trading units employing less than five persons. This applies more to retailers than to wholesale traders.

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(1) Data exclude Turkish Cypriot establishments.

(ii) Large firms account for a bigger share in total full-time employment than small firms. Small firms depend more than large firms on part-time employment and on the work of working proprietors and members of their families.

(iii) From the point of view of turnover, small enterprises contribute significantly less than large firms in the case of wholesale trade, whereas in the case of retail trade the scene is dominated by small firms.

Thus, because of the multiplicity and small size of the trading units, there would appear to be much under-utilized capacity in the distributive trades. Such a structure ties up unnecessary labour and capital which could be used more productively in other sectors of the economy. It has also an adverse effect on the price structure. Labour productivity although ranking high in the national statistics is certain to be over-estimated in the sense that there is much family labour being employed which is not included in the labour statistics. Also, such a measure of productivity can obviously take no account of the number of hours worked which is normally quite high in this sector.

3.3 Marketing Problems of Certain Products

The local marketing of fruits and vegetables needs to be looked into. Cold storage facilities are insufficient and are operated at high cost. Marketing problems also arise because of the lack of prescribed standards for the grading of fruits and vegetables. Legislation has already been enacted in this respect.

Considerable quantities of dairy products are still imported, but at the same time problems are encountered with regard to the disposal of local milk production. The problem arises essentially from the high cost of production of fresh milk. Efforts to increase beef production have resulted in expanded milk supplies. Increasing surpluses of milk are manufactured into halloumi cheese, etc. by the Milk Marketing Board. A fresh look at the whole issue of milk production, processing and marketing is needed and the assistance of foreign experts has already been sought for this purpose.

4. The Third Five-Year Plan, 1972–1976

4.1 Wholesale and Retail Trade

4.1.1 Objectives of the Third Plan

The objectives of the Third Plan with regard to internal trade are :

(*a*) To promote rationalization in structure and methods so as to render the sector more adequately equipped to meet the needs of a rapidly growing economy.

(*b*) To reduce distribution costs by facilitating the movement of goods in the most economical way.

(*c*) To solve the marketing problem of certain important commodities.

For the attainment of the above objectives, the formation of larger size trading units will be encouraged and so will the elimination of unnecessary stages in distribution and, whenever required, the stimulation of competition. Achievement of the objectives would ensure that the resources engaged by the trade sector are employed in the most efficient manner. This would ultimately release both manpower and capital which are badly needed in other sectors. Moreover, an efficient organization of the sector will have a favourable impact on the development of agriculture and manufacturing industry.

4.1.2 Targets of the Third Plan

(i) Value Added

Value added in this sector has been projected in the light of the possible developments in domestic production, imports and exports on which trade activity heavily depends. As Table 8 shows, value added is expected to rise from £35.7 mln. in 1971 to £52.7 mln. in 1976 at constant 1970 prices, which represents an annual rate of growth of 8.1%. Its share in G.D.P. will also improve from 15.7% in 1971 to 16.3% in 1976.

(ii) Manpower and Productivity

Given the expected rate of growth of value added, manpower requirements will depend on the rate of productivity advancement. With the expected restructuring, an annual increase of productivity in the region of 6% is within the capabilities of the sector. On the basis of this assumption employment in 1976 has been estimated to reach 23,800 persons compared to 21,600 in 1971.

TABLE 8 **Wholesale and Retail Trade : Value Added and Employment in 1966, 1971 and 1976**

	1966	1971	1976	Annual Rate of Growth (%)	
				1967–71	1972–76
Value added (at constant 1970 prices—£mln.)	22.8	35.7	52.7	9.4	8.1
Gainfully employed (thousands)	18.5	21.6	23.8	3.1	2.0
Value added per head (£)	1,232	1,653	2,212	6.1	6.0

Source : Planning Bureau.

(iii) Investment Requirements

During the period of the Third Plan the sector is expected to invest in fixed capital around £19.0 mln., at 1970 prices. This level of investment is compatible with the projected rate of growth of value added.

4.1.3 Policy Measures during the Third Plan

To attain the targets and objectives of the Plan, certain policy measures will have to be taken such as :

(i) To encourage the establishment of major shopping centres in accordance with local town planning schemes.

(ii) To expand storage capacity at the place of importation, production and distribution.

(iii) To review the existing system of marketing of locally manufactured goods.

(iv) To promote standardization and grading of products.

(v) To promote more efficient packaging arrangements.

(vi) To educate, within the management development services offered by Government, wholesalers and retailers so as to enable them to become more cost conscious with regard to such operations as loading, unloading, storage and transportation, cost analysis of the size of orders, frequency of deliveries, credit and advertising, stockholding and assortment, labour saving methods (e.g. self-service shops).

(vii) To educate the consumer through the establishment of consumers' councils or otherwise.

(viii) To protect the consumer from the point of view of price, quality, quantity and hygiene.

(ix) To improve marketing arrangements with regard to specific agricultural products (e.g. dairy and meat products).

4.2 External Trade

4.2.1 Objectives of the Third Plan

The long-term and medium-term objectives with regard to the external trade account form an integral part of the more general objectives for the restructuring of the balance of payments, for which reference is made in Chapter 8. A series of specific measures will be taken to promote the export of Cyprus local produce and/or substitute imports of merchandise goods. An improvement in the composition of the trading account presupposes a more rapid expansion in exports relative to imports. This will be sought in the context of increasing manufacturing output to substitute imported consumer goods and to promote the export of manufactures on which special emphasis is laid in the Third Plan. Concurrently, various measures will be taken to stimulate the expansion of agricultural output and hence the exportable surplus of the sector. However, despite the envisaged increased efforts to promote exports, the trade account deficit will increase.

4.2.2. Targets and Prospects during the Third Plan

(i) TOTAL FOREIGN TRADE

The anticipated evolution of Cyprus foreign trade during the Third Plan period is shown in Table 9. The overall importance of foreign trade will be enhanced as indicated by the increasing per capita imports and exports and its increasing share in G.N.P.

Cyprus Foreign Trade, 1966, 1971 and 1976

TABLE 9

Year	Imports(1) (£mln.)	Exports(2) (£mln.)	Per Capita (£)		% of G.N.P.		
			Imports	Exports	Imports	Exports	Total
1966	55.4	29.2	92.0	48.5	36.0	19.0	55.0
1971	106.9	47.3	167.3	74.0	41.2	18.2	59.4
1976	186.0	78.4	271.0	114.3	43.8	18.4	62.2

Source : Planning Bureau.

(1) C.i.f., excluding N.A.A.F.I. imports.

(2) F.o.b., including re-exports.

(ii) MERCHANDISE EXPORTS

Merchandise exports (including re-exports) are envisaged to grow from £47.3 mln. in 1971 to £78.4 mln. in 1976 or to expand at 10.6% per annum. At the same time domestic exports will rise from £42.1 mln. in 1971 to £68.9 mln. in 1976. It is expected that there will be a change in the composition of domestic exports with an improvement in the share of agricultural products and manufactures at the expense of minerals. More analytically domestic export prospects appear in Table 10.

Structure of Domestic Exports in 1966, 1971 and 1976

(F.o.b.—£mln.)

TABLE 10

Year	Domestic Exports	Agricultural Products			Minerals	Other	% of Total Exports		
		Total	Raw	Processed			Agricultural	Mineral	Other
1966	27.2	14.4	10.1	4.3	12.2	0.6	52.9	44.9	2.2
1971	42.1	29.2	21.8	7.4	9.5	3.4	69.3	22.6	8.1
1976	68.9	50.1	38.6	11.5	10.3	8.5	72.7	15.0	12.3

Source : Planning Bureau.

Mineral exports are expected to increase somewhat over their 1971 level, rising from £9.5 mln. to £10.3 mln. in 1976. This increase will be feasible mainly because of a comparatively poor export performance in the base year of the Plan caused by a sharp fall in export prices. With a revival in export prices one would expect to see a small increase in mineral exports. In volume terms, however, these will maintain approximately their 1971 level.

The target of the Plan is to increase the earnings from the export of agricultural products (raw or processed) from £29.2 mln in 1971 to to £50.1 mln. in 1976. The main export item responsible for this increase will be citrus fruit. The prospects for oranges may not be so bright because of the possibility that world overproduction may depress prices. Brighter prospects, however, are envisaged for lemons and grapefruit.

The Plan envisages that manufactured goods of non-agricultural origin will increase by about £5.0 mln., thus bringing their value to £8.5 mln. in 1976. This increase is considered feasible on account both of the increased emphasis on the development of the manufacturing sector and the heavy export promotion orientation of the Third Plan. Footwear and clothing are expected to make the greatest contribution.

(iii) MERCHANDISE IMPORTS

The import requirements of the economy have been determined in the light of the output targets of the various sectors and the overall growth rate of the economy. These are projected to rise from £106.9 mln. in 1971 to £186.0 mln. in 1976, thus registering an annual rate of growth of 11.7%. The slower rate of import growth envisaged in the Third Plan, compared with that realized during the Second Plan, will be the result of increased import substitution, the implied slower growth rate of the economy and the slower increase in import prices as compared with those obtaining in the Second Plan period. Detailed projections of imports by economic destination appear in Table 11.

A welcome feature of the above projections is that imports of consumer goods are expected to continue falling relative to other forms of imports as a result of more import substitution. These are expected to rise from £37.7 mln. in 1971 to £59.9 mln. in 1976 or to grow by 9.7% p.a., which will be below the rate realized during the Second Plan period. Accordingly, their share in total imports will fall from 35.2% in 1971 to 32.2% in 1976.

Imports by Economic Destination, 1966, 1971 and 1976

(C.i.f.—£mln.)

TABLE 11

Economic Category	1966	1971	1976	Annual Rate of Growth (%)		% Share in Total		
				1967–71	1972–76	1966	1971	1976
1. Consumer & other goods	20.8	37.7	59.9	12.6	9.7	37.5	35.2	32.2
2. Raw materials (incl. fuel)	23.3	45.7	86.0	14.4	13.5	42.0	42.8	46.2
3. Capital goods ..	11.3	23.5	40.1	15.8	11.3	20.5	22.0	21.6
Total Imports ..	**55.4**	**106.9**	**186.0**	**14.1**	**11.7**	**100.0**	**100.0**	**100.0**

Source : Planning Bureau.

The highest increase in imports is expected to appear in the raw material component. The raw material bill is projected to grow by 13.5% p.a. and by 1976 will amount to £86.0 mln. The share of raw materials in total imports will also rise from 42.8% in 1971 to 46.2% in 1976.

The anticipated industrial growth during the period of the Third Plan will necessitate increased imports of capital goods. Accordingly, these are expected to grow at a rate of 11.3%, rising from £23.5 mln. in 1971 to £40.1 mln. in 1976. This level of imports is compatible with the expected investment requirements of the economy.

4.3 External Trade Policy

4.3.1 General Policy

The liberal trade policy pursued during the period of the Second Plan will be continued. Selective use will, however, continue to be made of tariffs to protect local industry. But, as already stated elsewhere, during the Third Plan heavier emphasis will be placed on export promotion. At the same time, import substitution will be continued on a more selective basis.

4.3.2 Export Promotion Policy

In line with the declared policy to promote exports, a number of measures will be taken as, for example, the implementation of infrastructural projects, the improvement of the quality and standardization of products, the provision of advisory extension services, information and training, the provision of incentives, the rationalization of the tariff structure, the conclusion of bilateral trade agreements and an association agreement with the E.E.C., the participation in trade fairs and exhibitions abroad, etc. Details of the proposed programmes and measures are given below :

(i) INFRASTRUCTURAL PROJECTS

The Government proposes to establish port based and airport based industrial estates. The establishment of a State Fair is also envisaged, which, *inter alia*, is expected to contribute to the export promotion effort by attracting foreign businessmen and creating new or reinforcing existing contacts with agents or representatives.

(ii) INSTITUTIONAL MEASURES

To promote manufacturing exports, the Government intends to establish a Quality Control and Standards Institute whose function will include, *inter alia*, the establishment of standards for manufactured goods, assistance to local industries to improve the quality of their products, and the provision of laboratory facilities for testing the conformity to the standards prescribed.

As far as agricultural products are concerned, it is intended to strengthen still further the Produce Inspection Service so as to enable it to cope more effectively with the task of supervision and quality control of exports. Assistance will also be extended to local industry to improve packaging.

As already mentioned, consideration is also being given to the possibility of introducing an export credit/guarantee scheme.

Finally, one of the envisaged institutional measures to be taken during the Third Plan period, which will not only have a favourable impact on industrial exports, but also on the development of the whole manufacturing sector, is the strengthening with U.N. technical assistance of the industrial development services of the Government. The objectives of the project are analytically described in the Chapter on Manufacturing.

(iii) ASSOCIATION WITH E.E.C.

The association of Cyprus with the European Economic Community is expected to enable the maintenance of existing and the opening up of new export markets for Cyprus agricultural and industrial products. More details concerning the provisions of the Association Agreement are given in a separate Appendix to this Chapter.

(iv) BILATERAL TRADE AGREEMENTS

Bilateral trade agreements will be continued. These agreements help expand and diversify markets. In the case of certain products, they have opened up new export outlets.

(v) OTHER EXPORT PROMOTION MEASURES

Participation in trade fairs and exhibitions abroad will be continued and so will other conventional export promotion measures. But heavier emphasis will be placed on market research, public relations, issue of promotional literature, and trade delegations. To facilitate trade relations with the rest of the world, it is proposed to introduce the metric system of weights and measures.

4.4 Development Expenditures

During the period of the Third Plan, development expenditure of the order of £1.1 mln. has been earmarked for the promotion of various activities in the trade and marketing sector including the introduction of the metric system of weights and measures.

APPENDIX

ASSOCIATION AGREEMENT BETWEEN CYPRUS AND THE E.E.C.

The Third Five-Year Plan approximately coincides with the first phase of the Association Agreement concluded between Cyprus and the E.E.C. This Agreement is expected to have wider repercussions on the future course of Cyprus economic and social development.

2. The Agreement envisages two successive stages, the first expiring on the 30th June 1977, and the second extending over a period of five years after the 30th June 1977. The Agreement defines in detail the measures which will have to be taken during the first stage with a view to enhancing the trade between the E.E.C. Countries and Cyprus. On the other hand, the provisions of the second stage are left open to be negotiated in the course of the eighteen months preceding the expiration of the first stage. The final aim of the Agreement is the elimination of obstacles to the essential part of trade and the establishment of an association between Cyprus and the E.E.C.

3. Under the Agreement the following tariff concessions were secured by Cyprus in the six original member-countries of E.E.C. and Denmark :—

(i) A tariff reduction of 40% on all exports of citrus.

(ii) Duty-free admission of all exports of carobs.

(iii) A tariff reduction of 70% on exports of industrial products, with the exception of petroleum products (and processed agricultural products). This reduction will only apply in the case of industrial goods complying with the E.E.C. rules of origin, i.e. goods manufactured from raw materials obtained in Cyprus or in an E.E.C. Country, or from raw materials obtained in another country but which have undergone sufficient transformation. (Certain exemptions were granted to Cyprus from the E.E.C. rules of origin, the most important being the exemption on a quota of men's and boys' outer garments).

4. As regards the U.K. and Ireland, a relevant Protocol provides for the continuation of the *status quo*, i.e. the maintenance of the same customs duties, rules of origin and other customs regulations towards Cyprus exports as were in force at the time of the Association and until the expiration

of the first stage of the Agreement, i.e. until the 30th June, 1977. In the case of potatoes, Cyprus sherry and cotton textiles, however, special arrangements were agreed, as follows :—

(i) Potatoes will continue to be admitted to the U.K. market free of import duty, but as from 1st January, 1974 and until the 30th June 1977, potato exports will be liable to quotas, the level of which will be fixed on the basis of traditional exports to the U.K. market.

(ii) Cyprus sherry will continue to be admitted to the U.K. market under the same terms and conditions as hitherto, i.e. it will be exempted from the E.E.C. reference prices which will be applied by the U.K. as from the 1st February, 1973. This exemption, however, will only apply for a period of two to three years and for an annual quota not exceeding 200,000 hectolitres, which approximately coincides with the average 1970–1972 volume of exports. Negotiations will be held in due course as to the further treatment of sherry.

(iii) The import restrictions now applied by the U.K. Government on cotton textiles will continue until the end of 1974, after which such restrictions will be abolished. The import quotas granted by the U.K. Government to Cyprus cotton textiles have been fixed at 100 and 125 tons for the years 1973 and 1974 respectively.

5. In addition, in the case of industrial exports to the U.K. market Cyprus will have the right to opt either for the Commonwealth rates of duty as frozen at the time of the Association or the rates of the E.E.C. Common External Tariff reduced by 70%, if such rates were more favourable. Exports benefiting from such tariff reduction, however, must conform to the E.E.C. rules of origin. By way of exception to this rule an annual quota of 400 tons of men's and boys' outer garments (T.H. 61.01) will be exempted from the E.E.C. rules of origin.

6. In exchange for the above concessions, Cyprus has undertaken to grant to the Community during the first stage tariff reductions of approximately 35%, or reductions equal to the Commonwealth margin of preference, if such margin exceeds the 35%. This reduction will be applied gradually according to the following time-table :

15% at the beginning of the 1st year
25% at the beginning of the 3rd year
35% at the beginning of the 5th year.

However, exceptions have been provided to the above rule, whereby the tariff reductions on a number of items are limited to the present Commonwealth margin of preference.

7. Under the Agreement, Cyprus is free to modify its duties, provided the percentage margin in favour of the Community in force at the moment of modification is maintained. Without prejudice to its general right to modify duties, Cyprus may also introduce new duties not exceeding 25% with a view to facilitating the establishment of new industries. In addition, certain clauses of the Agreement provide for safeguard measures which may be taken in consultation with the Community to deal with difficulties which may arise during the application of the Agreement. Moreover,

Cyprus has been assured that the concessions to be granted to other Mediterranean countries under the global policy now under consideration by the Community will be extended to Cyprus in case such concessions are more favourable than those granted to Cyprus.

8. Despite the fact that the tariff reductions on Cyprus agricultural exports are limited in scope, such reductions are expected to open up new outlets for citrus, which is a very important export crop and the production of which is expanding rapidly. On the other hand, the tariff reductions on industrial products are expected to improve the export prospects for such products and contribute towards the establishment or expansion of export-oriented industries. Such a development is of course highly desirable for the Cyprus economy with its limited internal demand. The industrial sub-sectors expected to benefit more from the concessions are clothing and footwear.

9. The Association Agreement between Cyprus and the E.E.C. will no doubt provide the basis for the development of trade relations with the E.E.C. Countries. At the same time the Agreement has made possible the continuation of Cyprus' trade relations with the U.K. During the first stage of the Agreement the competitive position of Cyprus products on the local market is not expected to be materially affected, while the export prospects for certain industrial and agricultural products are expected to improve as a result of the tariff concessions granted by the Community.

10. The first stage of the Agreement, however, is a preparatory one during which Cyprus agriculture and industry must enhance their competitiveness in order to face the increased competition which will result from the granting of increased tariff concessions to the Community during the second stage of the Agreement. A difficult task and a challenge lie ahead and no doubt the success of the Agreement and the final association of Cyprus with the Community will largely depend on the degree to which Cyprus producers and entrepreneurs will be able to take advantage and successfully exploit the opportunities during the first stage.

CHAPTER 15

MINING AND QUARRYING

1. Introduction

The past performance of a sector is always a good point of departure for the drawing up of conclusions and formulating future policies, programmes and, generally, for the detailed planning of that particular branch of economic activity. The analysis of anticipated developments in the field of mining and quarrying, therefore, cannot be dissociated from past developments and trends, although one should not underestimate the important exogenous factors which have a definite influnce on the future of the sector. The mining and quarrying sector has always been characterised by instability due, primarily, to its dependence on exogenous forces influencing its size and its evolution. Such instability was particularly noticeable during the period 1961–1971.

The relatively low growth rate recorded during the First Plan period was the result of low international prices for the products of the metal mining and non-metallic mining and quarrying sub-sectors, especially over the period 1961–1963. The comparatively higher growth rate attained during the Second Plan period reflected the ability of the sector to respond to the rise in international prices for the products of the above two sub-sectors, especially of copper, which gained momentum since 1964 and lasted up to the year 1970. The increase in world prices of minerals was high enough to outweigh the unfavourable effect on the local supply of mineral products caused by the depletion of the known rich ore deposits.

2. Importance of the Sector and Past Developments, 1961–1971

Developments in the mining and quarrying sector during the past decade, 1961–1971, have provided ample proof of its importance in the overall economy. At the same time, these developments have pin-pointed the possibilities for future action so as to avert a depression in the sector of serious dimensions.

2.1 Contribution to Gross Domestic Product and Exports

Table 1 indicates the contribution of the mining and quarrying sector to G.D.P. and domestic exports over the past ten years.

Contribution of Mining and Quarrying to G.D.P. and Exports, 1961–1971

TABLE 1

	1961	1966	1971
1. G.D.P. (at current factor cost—£000's) ..	93,600	137,800	232,700
2. Value added by the Sector (at current factor cost—£000's)	6,000	9,200	10,700
3. % of (2) over (1)	6.4	6.7	4.6
4. Total Domestic Exports (f.o.b.) (at current prices—£000's)	15,786	27,184	42,061
5. Exports of the Sector (f.o.b.) (at current prices—£000's)	8,417	12,225	9,495
6. % of (5) over (4)	53.3	45.0	22.6

Source : Economic Reports, Imports & Exports Statistics and Planning Bureau.

The contribution of the sector to both G.D.P. and exports has been declining over the period 1961–1971, indicating that the sector's performance has been below the average growth rate of the economy as a whole. The situation has been aggravated as a result of the poor export performance of minerals, due to the reduction in world prices of certain basic commodities in 1971. The contribution of the sector to the export earnings of the country is much more significant than its contribution to national income. The dependence of export earnings on such a scale on a single sector renders the economy sensitive to the ups and downs of this branch of activity. It may thus be concluded that, in spite of its diminishing importance, the sector is still significant in the income generation process and more particularly in the formation of the external account of the country.

The Second Plan anticipated that by the end of 1971 the value of mineral exports would have been close to £11.7 mln. In fact, exports amounted to about £9.5 mln. in 1971. On the other hand, whereas the Second Plan did not envisage any growth in the sector's value added, the realised annual rate of growth of the sector has been close to 3.2% p.a. Table 2 shows the respective contribution of the three main groups of products of the industry to the total sectoral contribution to the economy.

Contribution to G.D.P. of the Sub-Sectors of the Mining and Quarrying Sector, 1961–1971

TABLE 2

	1961		1966		1971	
	£000's	% to Total	£000's	% to Total	£000's	% to Total
1. METAL MINING PRODUCTS (cupreous concentrates, copper cement, cupreous pyrites, iron pyrites, chromium concentrates)	5,261	83.2	6,998	75.8	5,996	53.5
2. STONE-QUARRYING, CLAY AND SAND PITS PRODUCTS (building stone, sand, gravel, road aggregates, havara, marble, clay bentonite & bleaching earths)	191	3.0	1,404	15.2	4,037	36.0
3. OTHER NON-METALLIC MINING AND QUARRYING PRODUCTS (gypsum, asbestos, salt, umber)	871	13.8	836	9.0	1,178	10.5
Total Mining and Quarrying Sector's Products (at current census value)	**6,323**	**100.0**	**9,238**	**100.0**	**11,211**	**100.0**
Total Mining and Quarrying Sector's Products (at current factor cost)	**6,000**	—	**9,200**	—	**10,700**	—

Source : Industrial Production Surveys, Economic Reports and Planning Bureau.

It is evident from Table 2 that the diminishing share of the sector to G.D.P. can be explained in terms of the declining share in the overall growth of metal mining and the other non-metallic mining and quarrying products, which proved to be the most dynamic sub-sectors in the past. It is also shown that the stone quarrying sub-sector, with its spectacular growth, has kept in check the contribution to G.D.P. of the overall sector from a steeper decline. These developments are likely to accentuate in the future the problem of export earnings, because the two relatively declining sub-sectors are the only export sub-sectors. The products of the stone quarrying sub-sector are entirely oriented towards the home market. The shares of the metal mining and other non-metallic mining and quarrying products in the total exports of the sector were in 1961 87.9% and 12.1%, in 1966 92.1% and 7.9% and in 1971 84.6% and 15.3%, respectively.

2.2 Employment

Further evidence of the declining importance of the mining and quarrying sector is given by comparison of the number of persons employed in the sector with total employment in the country. As will be seen from Table 3, the sector has experienced both an absolute and a relative decline in employment over the period 1961–1971. A sizeable proportion of the absolute decline in employment was due, primarily, to a transition from underground mining to open cast mining and, to a lesser extent, to minor capitalization of labour intensive mining operations. Contrary to developments in the metal mining and the other non-metallic mining and quarrying sub-sectors, the number of persons employed in the stone quarrying sub-sector increased while the number of establishments rose only slightly ; the average size of establishments increased from 2.6 persons in 1962 to 4.2 persons by 1971.

TABLE 3

Employment in the Mining and Quarrying Sector, 1961–1971

	1961		1966		1971	
	No. of persons	% to Total	No. of persons	% to Total	No. of persons	% to Total
1. Metal Mining	3,799	71.0	4,072	80.3	3,066	72.9
2. Stone Quarrying	587	11.0	357	7.0	583	13.9
3. Other Non-Metallic Mining and Quarrying	963	18.0	643	12.7	554	13.2
4. Total Employment in the Sector	**5,349**	**100.0**	**5,072**	**100.0**	**4,203**	**100.0**
5. Total Employment in the Economy	**218,930**	—	**224,172**	—	**245,700**	—
6. % of (4) over (5)	2.4%	—	2.3%	—	1.7%	—

Source : Industrial Production Surveys, Economic Reports and Planning Bureau.

2.3 Productivity

Productivity is a concept which ordinarily relates output to labour units and it is generally used as an indicator of the performance of labour employed in the sector, though its size is influenced by other factors of production, e.g. capital, technical know-how, etc. A closer look at the available statistical data reveals that the volume of output of the main products of the sector have increased over the 1961–1970 period, while the total number of persons employed has decreased. At the same time, it will be noted that over the same period the percentage ore content of the main mineral products mined has been diminishing. The combined effect of these developments on the total sector is shown in Table 4.

Value Added, Employment and Productivity Growth, 1961–1971

TABLE 4

	Average Annual Rate of Change (%)		
	1962–71	1962–66	1967–71
1. Value Added (at constant factor cost, 1966)	2.1	0.9	3.2
2. Employment	—2.3	—1.1	—3.7
3. Productivity (Value Added at 1966 constant factor cost per person employed) . .	4.6	2.0	7.2

Source : Planning Bureau.

Table 4 indicates that overall productivity growth in the mining and quarrying sector has been positive during the period under review. This was attained despite the reduction in the percentage content of the ore mined, and was mainly the result of the reduction in the labour force employed and of the more efficient operations at the mines. The high growth rate in overall productivity achieved reflects also the comparatively high growth in productivity experienced in the stone quarrying and the other non-metallic mining and quarrying sub-sectors.

2.4 Capital Investment

Fixed investment in the sector both for replacement and expansion purposes is shown in Table 5.

Gross Fixed Capital Formation, 1961–1971

TABLE 5 *(At Current Prices—£000's)*

	1961	1966	1971
1. Mining and Quarrying Sector	700	640	1,200
2. Total Economy	13,000	28,800	57,900
3. % of (1) over (2)	5.4%	2.2%	2.1%

Source : Economic Reports and Planning Bureau.

The declining relative share of the sector in total gross fixed capital formation during the past decade is consistent with the diminishing share of the sector in G.D.P. and exports described above. Total gross fixed capital formation during the years 1967–1971 was estimated at £4.6 mln. at 1966 prices, and was slightly below the forecast of the Second Plan (£5.0 mln.). Most of the investment was in existing mines and the major part was devoted to the purchase of machinery and equipment, including transport equipment, and only a small part went to finance new construction works. These investment outlays, however, do not include expenditure on exploration and research for the discovery of ore deposits.

2.5 Exploration and Research

(a) *Private Exploration Work*

Private expenditure on exploration and research was mostly concentrated on known ore deposit areas with surface indications. The major part of this expenditure went to finance programmes in areas held under mining leases and very little expenditure was devoted to areas held under prospecting permits. Table 6 gives details of these expenditures for the years 1961, 1966 and 1971.

TABLE 6

Expenditures on Private Exploration and Research, 1961–1971[1]

—	On Areas under Prospecting Permits (£)	On Areas under Mining Leases (£)	Total (£)
1961	—	79,690	79,690
1966	9,928	416,239	426,167
1971	35,000	135,000	170,000

Source : Mines Department.

The low level of exploration and research work undertaken, compared with the area held under prospecting permits, may be attributed to the present system of granting prospecting permits, the highly risky nature of mining ventures and the relatively inadequate financial resources of many large holders of permits. The main features of the present system which are likely to operate as retarding factors are, *inter alia*, the relatively low level of expenditure required for exploration per square mile of area held under prospecting permits, the relatively large size of areas allocated in each case, the high average duration of permits per holder and the fact that the bulk of the promising areas are in the hands of a few prospecting holders. In 1971 the areas held under mining leases (including licences), prospecting permits and quarry licences were 114.52 sq. miles, 162.4 sq. miles and 18.03 sq. miles, respectively.

In addition to exploration for minerals, interest has also been shown since 1963 by foreign firms in the discovery of promising oil deposits. This interest was revived during the Second Plan period and by the end of 1971 there were four foreign firms, some in co-operation with Cypriot concerns, carrying out oil exploration activity. The areas covered by licences for oil prospecting now include part of the territorial waters of Cyprus and a large proportion of inland regions. The results obtained so far cannot be considered adequate for drawing any definite conclusions.

(*b*) *Government Exploration Work*

Serious mineral exploration work on the part of Government started in 1963, when the Government and the U.N. under a Special Fund project undertook to implement jointly a water and mineral exploration programme. The bulk of the U.N. expenditure on research work connected with mineral exploration was spent during the period 1966–1968. Thereafter, the Government undertook out of its own resources the bulk of the burden. Table 7 shows the volume and category of expenditure incurred by Government and the U.N. solely on mineral exploration during the period 1963–1971.

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(1) As declared by mining enterprises.

Government and U.N. Expenditures on Exploration and Research, 1963–1971

(£)

TABLE 7

	1963	1964	1965	1966	1967	1968	1969	1970	1971
Geological Mapping ..	12,780	23,760	15,420	19,020	23,820	24,120	2,820	3,120	2,520
Geophysical Surveys ..	—	—	7,392	29,594	32,255	24,666	15,858	13,584	16,260
Airborne Geophysical Survey	—	—	—	21,125	—	—	—	—	—
Drilling	—	232	9,896	21,481	33,275	45,629	22,093	16,774	20,458
Chemical Laboratory ..	3,492	3,679	3,982	4,261	4,320	4,736	5,520	5,269	6,171
Geochemical Prospecting ..	—	—	—	—	3,877	7,440	3,780	3,900	4,020
Total	**16,272**	**27,671**	**36,690**	**95,481**	**97,547**	**106,591**	**50,071**	**42,647**	**49,429**

Source : Geological Survey Department.

The above expenditure does not include funds allocated to the Mines Department from the Ordinary Budget ; however, it includes consultancy work of the order of £10,072 undertaken by the Geological Survey Department for the private sector during the period 1969–1971. Mainly because of lack of accurate information concerning private exploration activity, in the past exploration by Government was not closely co-ordinated with that carried out by the private sector. Recently, the situation has improved and this will facilitate the programming of exploration activity on an Island-wide basis. Since 1970, certain areas have been closed to private prospectors so that the Geological Survey Department might be able to carry out exploration activity in them. As a result, by the end of 1971 the Department held prospecting permits covering an area of 111 square miles, primarily for investigation and exploration activity connected with the discovery of cupreous pyrites, iron pyrites and chromite deposits.

Total expenditure by the Mines and the Geological Survey Departments out of the Ordinary and Development Budgets (excluding U.N. contributions) during the Second Plan period amounted to £670,400. It must be noted, however, that only part of the expenditure of the Geological Survey Department went to finance mineral exploration schemes, the remaining having been used mainly for the discovery of water resources.

Government's contribution in this field has been useful, more particularly in so far as the preparation and collection of more basic research data, (geological maps and geophysical surveys) are concerned.

2.6 Institutional Environment and Incentives

Besides Government's direct involvement in exploration and research programmes, more important has been its role in improving the institutional framework within which the mining and quarrying enterprises have been operating over the years 1961 and 1971. The law and regulations concerning the issue of prospecting permits, licences and mining leases have been liberal and generous and particularly conducive for existing enterprises to undertake further exploration work. The most recent amendments to legislation were intended to reduce royalties on the export of limestone and marble, while the fees and charges on rents, licences, royalties on exports as well as the minimum expenditure required to be spent on areas held under prospecting permits have all been kept within reasonable limits.

The same can be said for tax incentives. The taxation framework within which mining enterprises operate to-day includes the following :—

(i) The payment of 42.5% in the form of income tax on taxable profits.

(ii) The payment of royalties on sales which are allowed as deduction from taxable income.

(iii) Capital allowances in the form of initial allowances for the first year and in the form of wear and tear allowances in subsequent years on the cost of acquisition of plant and machinery and of land and buildings, which are also deductible from taxable income. In 1969, by an amendment to existing income tax legislation the initial allowance on the cost of new plant and machinery was further increased from 20% to 25%.

(iv) Mining enterprises have an option to claim, in lieu of any initial and annual allowances, a depletion allowance related to the ratio of profitability, with a maximum of 20% of the profit from the operation of any new mine.

(v) Abortive expenses connected with exploration work are allowable deductions from taxable income.

(vi) Losses from the operation of mines in any one year are allowed to be set against future profits.

As a result of these allowances, but mainly because of the decline in mining operations the percentage contribution of the income tax received from mining enterprises to the total income tax receipts has fallen from 40% in 1966 to 18.8% by 1971. It is important to note that between these two years the absolute amount of income tax receipts from mining enterprises fell also, from £1.7 mln. to nearly £1.3 mln. Still, the relative size of the income tax receipts from the mining sector is high, which implies that its further diminution will have an adverse effect on Government revenue in the short-run.

3. The Economic Forces behind the Recorded Changes, 1961–1971

As already seen, during the period 1961–1971, developments in the mining and quarrying sector, with the exception of the stone quarrying, clay and the sand pits sub-sectors, have been characterised by a relative decline of its share in the G.D.P. and by instability, especially if one compares the growth rate in real terms attained by the sector during the First Plan with that of the Second Plan period. The instability of the sector over the period 1961–1971 and its relative declining contribution to national income can be explained in terms of demand and supply conditions, under which the sector operated during this period.

3.1 Conditions of Demand

The bulk of the products of the sector are internationally traded and, therefore, conditions in world markets have a direct effect on the performance of the whole sector. The total supply of metal and other non-metallic mining and quarrying products from Cyprus constitutes a small proportion of total world supply and cannot therefore influence world market prices. Cyprus is in effect a price taker in so far as the products of the above sub-sectors are concerned. Conditions of demand in the case of the stone quarrying sector are almost entirely dependent on the home market. The demand for these products is a derived demand, largely dependent on the construction and the manufacturing sectors. The stone quarrying sector also may be influenced by fluctuations in certain fields of construction activity (e.g. ports and dams). Serious fluctuations, however, over the 1961–1971 period have not been observed. Demand conditions in the long-run depend mainly on changes in the size of demand from existing uses, the rate of expansion of those uses and competing substitutes.

(*a*) *Metal Mining and Other Non-Metallic Mining and Quarrying Products*

During the period 1961–1971, these sub-sectors were affected by short-term fluctuations in the international trade of copper and the more minor changes which appear to be part of a more long-term cycle in the case of iron pyrites. Reasonable stability has been noted in the case of asbestos and chrome ore. Fluctuations in export prices are reflected in the indices given in Table 8.

Export Price Indices (f.o.b.) of the Ore Content of the Main Mineral Products, 1961–1971

(1961=100)

TABLE 8

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
METAL MINING :										
Cement Copper ..	128.9	126.0	256.9	299.7	259.0	207.1	277.2	255.3	316.8	238.8
Cupreous Concentrates	114.6	109.6	166.8	230.7	256.6	194.5	241.4	307.4	293.0	215.0
Cupreous Pyrites ..	100.0	113.7	135.2	142.2	193.0	163.0	207.2	203.9	207.6	157.9
Iron Pyrites	104.3	87.9	77.4	85.4	107.0	127.7	136.4	140.8	115.2	94.9
Chrome	96.6	98.0	96.1	—	83.6	83.0	95.8	111.9	128.1	144.8
NON-METALLIC MINING AND QUARRYING :										
Asbestos	98.5	97.1	86.1	80.5	74.8	72.9	75.7	77.0	94.8	103.9

Source : Mines Department and Planning Bureau.

As will be seen from Table 8, fluctuations in export prices were more marked in the case of copper ore carrying minerals and, more so, in the case of the richer ore carrying products, such as cement copper and curpeous concentrates. Fluctuation was also characteristic of sulphur carrying minerals (iron pyrites). The price of sulphur is influenced by factors of more long-term and lasting effects, e.g. competitive substitutes, than by those influencing the price of copper. The latter product has more diverse uses and is more susceptible to the influence of short-term factors. The price indices of asbestos and chrome ore products have shown more stability over the period under review. The price indices for all the products shown in Table 8, with the exception of iron pyrites, appear to have been higher in 1971 than in 1961.

(*b*) *Stone Quarrying, Clay and Sand Pits Products*

Indicators of demand for the products of this sub-sector reveal that the situation over the period 1961–1971 was different compared with that of the other two main sub-sectors. This was the result of the more stable growth experienced by the main consuming sectors for these products, and more specifically the construction sector and certain sub-sectors within the manufacturing industry. The growth of demand for quarrying materials was stronger during the Second Plan period when the construction and manufacturing sectors recorded high growth rates. Despite the stability noted, still this sub-sector remains sensitive to developments in building programmes connected with large projects.

3.2 Conditions of Supply

Given the conditions of demand, the degree of sensitivity of the sector on the supply side in the short-run is determined by the size of the margins above variable costs within which the metal and non-metallic mining and quarrying sub-sectors operate. These margins are largely determined by the percentage content of the ore and the total size of deposits, which together define the size of the economic ore reserves of a particular mineral at any moment of time under the given price for the product.

(*a*) *Metal Mining and Other Non-Metallic Mining and Quarrying Products*

Throughout the period under review, mining enterprises were operating mainly on known ore deposits. These enterprises continued the exploitation of existing ore deposits, but at a steadily declining percentage ore content, particularly in the case of copper ore deposits. The declining percentage of the ore content and, therefore, the diminution of the total size of the relatively richer known ore deposits in respect of the bulk of mineral production pushed up the general level of costs and rendered the sector much more sensitive to international price fluctuations. Given that the volume of output has remained more or less stable, the decline in the ore content (especially copper) is primarily responsible for the overall decline of the share to G.D.P. of the sector over the period 1961–1971. Table 9, which presents estimates of the percentage ore content of mineral rock mined and treated for the main export items, is indicative of the above changes.

TABLE 9 **Percentage Ore Content of Rock Mined and Treated of the Main Items Exported, 1961–1971(¹)**

Year	Ore mined Copper Content		Ore mined Sulphur Content		Ore treated Asbestos Content	Ore treated Chrome Content
	Minimum %	Maximum %	Minimum %	Maximum %	%	%
1961	2.03	3.41	23.20	46.00	2.33	58.50
1966	1.11	1.80	15.30	46.00	1.96	71.10
1970	0.85	1.68	12.5	35.00	1.37	74.40
1971	0.50	1.65	6.0	35.97	1.40	73.10

Source : Mines Department and Planning Bureau.

The most severe diminution of ore content was experienced in the case of copper and sulphur carrying mineral rock, which appear to be the most depressed fields in the sector today. The content of asbestos in the rock treated has also declined. In general, it may be said that cost conditions per unit of output have been pushed steadily upwards over the period 1961–1971, except in the case of chrome ore.

(¹) Estimates.

Another aspect of mining, which cannot be examined in detail due to lack of statistical data, is the size of total ore deposits in terms of ore content. This is important because it determines, to a large extent, the ability of the above two main sub-sectors to respond to long-term changes in demand. There is evidence, however, that the size of known ore deposits with a given ore content has been steadily declining. Total capacity for mining ore during the period under review has remained more or less stable, and new major investments have not been undertaken mainly because enterprises have been discouraged by the steady diminution of the size of known ore deposits, and by lack of exploration data on new deposits. Private expenditure on exploration for the discovery of new ore deposits, which is an indicator of the efforts of the private sector to increase the long-term supply capacity of ore, is still inadequate. The relatively higher level of exploration expenditure since 1965 has probably been motivated by the gradual reduction of the ore content of mineral rock mined.

(*b*) *Stone Quarrying, Clay and Sand Pits Products*

The stone quarrying, clay and sand pits field has not faced, so far, a problem of insufficient supplies to satisfy the recorded level of demand. On the contrary, it has followed readily the rising level of demand with no major problem of rising costs on the supply side. The favourable supply conditions have been facilitated to a certain extent by vertical integration in this field. A number of quarrying enterprises are owned or operated by large building contractors. In general, it may be said that there has been no serious attempt on the part of the private sector to identify and exploit deposits of high value stones for decorative purposes, some of which have good prospects for development. Activity has been concentrated mainly on the traditional lines.

4. The Present Situation

The relatively lower growth rate experienced in this field and more notably in the case of the metal and other non-metallic mining and quarrying sub-sectors is to be attributed to all or to a combination of the following factors which have operated on both the demand and the supply side : (i) the stronger competition abroad and the adverse substitution effects involving certain products, particularly iron pyrites and cupreous pyrites ; (ii) the international price fluctuations ; (iii) the gradual diminution of the ore content of known deposits and the resultant rise in operating costs per unit of output ; (iv) the lack of data necessary for the preparation and up-dating of an inventory of possible deposit areas, more particularly in the case of quarrying materials ; (v) the need to embark on a more intensive Island-wide exploration programme ; and (vi) the relatively low expenditure incurred on exploration and research for the discovery of new and richer ore deposits.

5. The Third Five-Year Plan, 1972–1976

The analysis of developments during the period 1961–1971, and particularly during the Second Plan period, highlights the need to review existing policies with a view to revitalising the mining and quarrying sector

In the last analysis, however, any policy may not prove sufficient to set in motion forces which may generate growth, if mineral resources have been permanently depleted. The evidence in hand is not suggestive of this conclusion. The period of the Third Plan should be a period of intensification of efforts for the revitalization and development of the sector. The aim should be to minimise the anticipated decline of the contribution of the sector to the economy and to lay the foundations, within the overall economic strategy, for revitalising the sector on a sustained basis, if natural resources are found to be promising.

The degree of importance which should be attached to the development of the mining and quarrying sector is determined by its potential role in the economic development of the country. This role becomes clearer if account is taken of the following :—

(i) Given that the sector is still a major foreign exchange earner, its export performance should continue to be satisfactory in order to allow the development of other more stable sources of foreign exchange earnings and until the planned restructuring of the economy has reached an advanced stage of realization.

(ii) The sector provides an important employment outlet especially in regions which may potentially suffer from underemployment. The anticipated decline in employment should take place gradually so as to permit the absorption of displaced labour in other fields of economic activity.

(iii) The contribution of the sector to national income is still significant.

(iv) The economic activity involved in mining and quarrying assists in the more productive utilization of land resources and could possibly enlarge the inter-industry dependence of the economy.

5.1 Objectives of the Third Plan

The main objectives of the Plan are :—

(a) *Demand Conditions*

(i) To diversify markets and develop new markets for new products, especially in the field of quarrying products. In this way the sensitivity of the sector will be reduced.

(ii) To build up gradually, in co-operation with the private sector, a volume of information on general demand and price conditions in export markets.

(iii) To encourage existing and new enterprises to enter new lines of production in order to diversify the risks of unstable demand conditions, particularly in the case of high value lines of production in the quarrying sub-sector.

(iv) To improve the knowledge concerning the inter-industry relationships of products.

(b) *Supply Conditions*

(i) To promote and maintain competitiveness through productivity improvements, lowering of production costs, etc.

(ii) To encourage investment for the exploitation of existing deposits as well as of new high value quarrying materials with a good market potential.

(iii) To encourage private exploration in regions of fairly known potential and in unexplored areas for the discovery of new deposits.

(iv) To attract new prospecting holders and investors with sound technical and financial resources.

(v) To review the system of prospecting permits, mining leases and quarry licences with the object of encouraging new investments and accelerating the exploitation of the mineral resources of the Island.

(vi) To encourage further improvements in the methods of extraction of quarrying materials so as to reduce costs.

(vii) To encourage the development of the stone quarrying, clay and sand pits and the other non-metallic mining and quarrying sub-sectors in order to offset as far as possible the decline in the metal mining sub-sector.

5.2 Targets of the Third Plan

Preparing projections in a field so sensitive to exogenous factors, such as the mining and quarrying sector, is a difficult task. These factors have been weighed in the light of a survey of intentions for the period 1971–1976 carried out by the Planning Bureau in co-operation with the Mines Department among private enterprises and on the basis of other relevant information. The net result was to prepare estimates regarding the evolution of the main economic variables of the sector on the basis of certain assumptions regarding the performance of the private sector. The projections presented below are therefore indicative and represent targets to be reached under various assumptions.

(i) Output and Exports

The basic assumption behind the projections of output, particularly in the metal mining sub-sector, is that the existing enterprises will continue their operations up to the year 1976, but on a reduced scale. For most of the years of the Third Plan, the prices to be obtained by the above sub-sector are anticipated to be low and, since deposits will be poorer, the sector is expected to experience an absolute decline in output. On the other hand, the other non-metallic mining and quarrying sub-sector is expected to operate in a relatively better climate in so far as prices are concerned but a slight diminution of the ore content of the rock to be treated is possible. The stone quarrying sub-sector may undergo certain fluctuations as a result of the timing of execution of a number of large projects. Another assumption is that in the course of implementation of the Plan at least one major project in the metal mining and other non-metallic mining and quarrying sub-sector will start being implemented.

Exports will follow closely developments in output with additional complications arising as a result of the relationship between the level of stocks and sales. The level of stocks from year to year is expected to vary widely, and in the majority of cases it will be inversely related to variations in international prices, particularly in the case of the products of the metal mining sub-sector. Table 10 presents, in summary form, the projections prepared on the basis of the above assumptions.

Projections of Gross Output, Value Added and Exports, 1971 and 1976

(*At* 1970 *Prices—£000's* (1))

TABLE 10

Sub-sector	1971			1976			1972–76		
							Annual Rate of Change (%)		
	Gross Output	Value added	Exports	Gross Output	Value added	Exports	Gross Output	Value added	Exports
1. Metal Mining	11,533	8,338	10,983	9,502	6,775	9,333	—3.8	—4.0	—3.2
2. Stone Quarrying, etc.	4,609	4,337	—	7,589	7,134	—	+10.5	+10.5	—
3. Other Non-Metallic, etc.	1,541	1,080	1,393	1,612	1,104	1,473	+1.2	+0.4	+1.1
Grand Total	**17,683**	**13,755**	**12,376**	**18,703**	**15,013**	**10,806**	**+0.9**	**+1.8**	**—2.7**
Value Added at Factor Cost	—	13,136	—	—	14,337	—	—	+1.8	—

Source : Planning Bureau.

From Table 10 it will be seen that the metal mining sub-sector is expected to experience a decline in both gross output and value added. Within the sub-sector, it is expected that cupreous concentrates, copper cement, cupreous pyrites and iron pyrites will show negative growth rates, the highest of which will be in the case of iron pyrites. The production of chromium concentrates is expected to show a positive growth rate. The highest increase in output in the case of the other non-metallic mining and quarrying sub-sector is expected to take place in the case of gypsum products, while asbestos production is likely to be maintained at its 1971 level ; the remaining products of this sub-sector are expected to show some increase. The stone quarrying, clay and sand pits sub-sector is anticipated to show considerable expansion, in spite of large variations in output among individual products. The output of all the products of the sub-sector, such as sand, gravel and road aggregates, havara, marble, clay and bentonite, will increase, the highest increase being anticipated in the case of sand, gravel and road aggregates. Building stone quarrying, which is the most volatile branch in this field, contributing in 1971 nearly 10% of the total gross output of the mining and quarrying sector, is expected to show fluctuations during the Plan period.

Exports of the metal mining sub-sector in real terms are expected to decline with iron pyrites and cupreous pyrites showing the largest relative decline. On the other hand, exports of chrome ore are anticipated to show a large increase. In the case of exports from the other non-metallic mining and quarrying sub-sector, asbestos and gypsum are expected to maintain approximately the level recorded in 1971, while other minor items are anticipated to expand appreciably. Overall, it may be said that the impact of the decline of the sector will be felt more on exports than on output. These developments are not likely to be uniform in each year of the Plan period, and significant fluctuations may occur. Export prices in 1976 are expected to be close to the level of prices obtaining in 1970 for the major products of the metal mining sub-sector, except in the case of iron pyrites, the market prospects of which are anticipated to be similar to those prevailed in 1971.

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(1) At current prices the corresponding figures for gross output, value added and exports were in 1971 £14.3 mln., £10.7 min., and £9,5 mln., respectively.

(ii) EMPLOYMENT AND PRODUCTIVITY

The size of the labour force to be employed in the sector will depend on a number of factors, but it is closely related to developments in output and productivity and the type and level of new investments to be undertaken. The assumptions made in preparing projections of employment are that throughout the Third Plan period labour will operate on poorer ore deposits than in the past, that the move from underground to open cast mining will be on a more limited scale than during the Second Plan period and that overall productivity growth will be positive. Table 11 is indicative of the changes expected to occur by the end of the Plan.

Employment, 1970, 1971 and 1976

(*Number of Persons*)

TABLE 11

Sub-Sector	1970	1971	1976	1972–76 Annual Rate of Change (%)
1. Metal Mining	3,736	3,066	2,511	—3.8
2. Stone Quarrying, etc.	572	583	643	+2.0
3. Other Non-Metallic Mining and Quarrying, etc.	590	554	498	—2.1
Total	**4,898**	**4,203**	**3,652**	—2.8

Source : Planning Bureau.

From Table 11 it will be observed that both the metal mining and the other non-metallic mining and quarrying sub-sectors are expected to experience an absolute decline in their labour force by 1976.

The rate of overall productivity growth is expected to be lower during the Third Plan compared with that attained during the Second Plan (4.7% p.a. as compared with 5.7% p.a. over the 1967–1971 period at 1970 prices). In fact in the case of the metal mining sub-sector productivity growth will be practically nil.

(iii) INVESTMENT

Table 12 presents a summary picture of the level of investment in the mining and quarrying sector during the First and Second Plan and the targets of investment during the Third Plan period. As it will be seen from this Table, the rate of investment in the past has been generally low. Most of the investment expected to be injected in the sector will be directed to the metal mining and the other non-metallic mining and quarrying sub-sectors. It is estimated that out of the £6.0 mln. a sum of £2.7 mln. will finance new projects. This picture may however change over the Plan period if new projects are not implemented at all or in time, which, as pointed out earlier, will have wider repercussions on output, employment and productivity projections.

Fixed Investment, 1962–1966, 1967–1971 and 1972–1976

TABLE 12

	At Current Prices £mln.		At 1970 Prices £mln.	
	First Plan 1962–66	Second Plan 1967–71	Second Plan 1967–71	Third Plan 1972–76
Total Investment	3.4	5.3	5.6	6.0
Average Investment p.a. ..	0.68	1.06	1.12	1.20

Source : Deparmtent of Statistics and Research, Planning Bureau.

(iv) Projections on Exploration and Research Work

(*a*) *Private Exploration Work*

A major area to which attention should be directed during the Third Plan period is the level of private expenditure on exploration work. Table 13 shows the exploration work carried out during the First and Second Plan periods on areas held under prospecting permits Class "A" and "B" and the target for exploration expenditure during the Third Plan period.

Private Expenditure on Exploration and Research Work, 1962–1966, 1967–1971 and 1972–1976

TABLE 13

	First Plan 1962–66	Second Plan 1967–71	Third Plan 1972–76
Total private expenditure(1) (£mln)	0.152	0.200	0.500
Average expenditure p.a. (£mln)	0.030	0.040	0.100
Total no. of square miles covered by prospecting permits(2)	1.095	600	580
Average no. of square miles covered p.a.(3) ..	219	120	116
Average expenditure per average no. of square miles covered (£)	145	333	862

Source : Planning Bureau.

The projections of private expenditure on exploration and research do not include expenditure on exploration in areas held under mining leases. The intention is to give priority on exploration activity aiming at the discovery of new ore deposits, as opposed to the development of existing deposits which are gradually being depleted. This does not imply that it is the policy to reduce the scale of exploration work on areas under mining leases. The target of average square mileage to be covered annually will be about 116 sq. miles.

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(1) It excludes exploration expenditure on areas held under mining leases.

(2) It excludes areas allocated to the Geological Survey Department.

(3) The total square mileage of lava areas with good mineral prospects is estimated at about 250 square miles out of which 114.5 is under mining leases.

Another assumption made in the projections is that the average annual expenditure per square mile will be of the order of £862 as opposed to £145 and £333 realised over the First and Second Plan periods, respectively. This level could be attained through better selection of would-be investors and through legislative amendments. The aim to increase exploration work on areas under prospecting permits should be considered as one of the most important objectives of the Third Plan in the mining sector, because in this way the prerequisites may be established for the growth of the sector in the long-run.

(*b*) *Government Exploration Work*

The programme of private exploration investigations will be supplemented and reinforced by the Government programme. The Government exploration programme is discussed in subsequent paragraphs.

5.3 Means to Achieve the Targets of the Plan

The above targets and objectives will necessitate a number of measures and policies which should be accompanied by corresponding action by the private sector.

(i) THE GOVERNMENT PROGRAMMES—DEVELOPMENT EXPENDITURES

Exploration activity will constitute one of the most important aspects of the efforts during the Plan period to revitalize the mining and quarrying sector. The contribution of Government in this connexion will be of lesser significance but cannot be ignored. The exploration programme of the Government will lay emphasis on the discovery of copper ore carrying deposits, chrome, chromite, asbestos, nickel, cobalt, bentonitic clays, umber, silica sands and other semi-precious high value stones and construction materials.

The Government exploration programme which will be a continuation of the mineral investigation activities initiated in 1963, will be carried up to the preliminary stage of drilling operations. The same principle will apply to the expanded consultancy work to be rendered to the private sector. The policy of allocating areas for prospecting to the Geological Survey Department will be continued but in no case will the size of the areas to be assigned exceed the capacity of the Department to complete the work in time. The Mines Department, whose role has so far been mainly regulatory, will be strengthened so that it may undertake more developmental work.

The size of development expenditures to be allocated over the next five-year period will be in the region of £330,000(¹) to cover geological mapping, geophysical surveys, geochemical prospecting, drilling and prospecting, drilling and other equipment, chemical analyses, e.t.c. by the Geological Survey Department and the strengthening of the Mines Department.

(¹) It excludes Ordinary Budget allocations. It also excludes development expenditure on geological work connected with the discovery of water resources and other work undertaken by the Geological Survey Department.

(ii) LEGAL AND OTHER MEASURES

A number of legal and other policy measures will be introduced during the Third Plan period.

(*a*) *Land Policies*

One of the difficulties encountered in the past in prospecting permits and quarry licences has been the problem of having to cancel or refuse renewal of such permits or licences because of competing claims on the area involved from other sectors. To overcome this difficulty the Government will study ways and means of demarcating the regions within which it will allow eventually mining and quarrying exploitation operations through the establishment of specific regions to be classified as "mining and quarrying development zones".

(*b*). *Exploration and Research—Legislation*

During the Third Plan, particular attention will be diverted to the legislative provisions concerning the issue of prospecting permits for exploration work. As has already been stated, past experience indicates that a small number of investors are holders of permits covering extensive areas, the duration of prospecting permits has been in certain cases too long, realised expenditure for prospecting per square mile has been too low, and frequently holders of prospecting permits are not investors. To attract new investors commanding the requisite capital and technical know-how, and to ensure the effective implementation of the exploration programme at an accelerated pace, the existing law and regulations will be more strictly enforced and may have o be amended.

With this aim in view a team of foreign experts on mining legislation will be recruited under the multilateral technical assistance programme.

(*c*) *Tax Incentives*

The existing tax incentives are considered satisfactory. However, during the period of the Third Plan, a review will be carried out with the object of ascertaining whether, having regard to the depressed condition of the sector, any new incentives, or any changes to existing incentives are needed which would encourage investment and the establishment of new or the expansion of existing ventures so as to speed up the revitalization of the industry. The possibility of providing other forms of assistance, where such assistance is needed, will also be examined.

CHAPTER 16

THE CONSTRUCTION SECTOR

1. The Role of the Construction Sector in the Economy

The role of the construction sector in the economy is of great importance, given that the sector contributes more than 50% to the formation of fixed capital. Moreover, the construction sector contributes directly to the gross domestic product and to employment.

This sector is also the vehicle through which the major part of fixed investment takes place and by means of which the productive capacity of the economy is enhanced. During the Second Plan period, fixed investment of a construction nature amounted to £136.0 mln.; this represented 60.3% of the total realized fixed capital which was of the order of £225.7 mln. (at current prices). On the other hand, value added realized by the construction sector in 1971 amounted to £19.5 mln. compared to £8.9 mln. in 1966 (at current prices), whereas the average rate of real growth during the five-year period was 10.5% per annum. This rate of growth is about the same as the one anticipated in the Plan (10.6% per annum). The contribution of the sector to G.D.P. in 1966 was 6.5%; in 1971 it was 8.4%. The labour force employed by the sector represented 10.6% of the total gainfully employed population in 1971 compared to 9.7% in 1966.

2. Developments during the Second plan

2.1 Gross Output

The gross output of the sector comprises dwellings, non-residential buildings, other construction works, repairs and maintenance. Tables 1 and 2 give a summary of the development of gross output between 1966 and 1971 at current market prices and at 1966 constant prices, respectively. The rate of growth of the gross output of the sector in real terms achieved during the period 1967–1971 is of the order of 9.5% per annum, which, although lower than the rate of growth of 10.4% per annum anticipated in the Plan, is nevertheless a fast rate of expansion.

Gross Output of the Construction Sector, 1966–1971

TABLE 1 *(At Current Market Prices—£mln.)*

Type of Gross Output	1966	1967	1968	1969	1970	1971	Indices 1971 (1966 = 100)	Annual Rate of Growth (%)
1. Dwellings . .	7.6	10.4	13.1	15.1	17.4	19.5	256.6	20.8
2. Non-Residential Buildings	4.7	4.1	5.3	5.6	6.2	8.3	176.6	12.0
3. Other Construction . .	4.0	4.5	4.6	6.1	7.0	8.8	220.0	17.0
1–3. New Construction . .	16.3	19.0	23.0	26.8	30.6	36.6	224.5	17.6
4. Repairs . .	1.6	1.6	1.3	1.7	1.8	2.0	125.0	4.5
1–4. Gross Output . .	17.9	20.6	24.3	28.5	32.4	38.6	215.6	16.6

Source : Department of Statistics and Research.

Gross Output of the Construction Sector, 1966–1971
(*At Constant* 1966 *Market Prices*—*£mln.*)

TABLE 2

Type of Gross Output	1966	1967	1968	1969	1970	1971	Indices 1971 (1966=100)	Annual Rate of Growth (%)
1. Dwellings	7.6	9.7	11.8	12.4	13.4	14.0	184.2	13.0
2. Non-Residential Buildings	4.7	4.2	4.8	4.6	4.8	5.8	123.4	4.3
3. Other Construction ..	4.0	4.3	4.4	5.5	5.8	6.9	172.5	11.5
1–3. New Construction ..	16.3	18.2	21.0	22.5	24.0	26.7	163.8	10.4
4. Repairs	1.6	1.6	1.3	1.5	1.4	1.5	93.6	—1.3
1–4. Gross Output ..	17.9	19.8	22.3	24.0	25.4	28.2	157.5	9.5

Source : Planning Bureau.

As shown in Tables 1 and 2, the increase in the gross output of the construction sector has been dominated by the construction of dwellings, the annual growth of which was higher than the overall growth of the sector. In fact, dwellings expanded much faster than anticipated in the Second Plan and as a result the share of dwellings in gross output reached 49.6% in 1971 compared to 42.5% in 1966 (at 1966 constant prices). "Other Construction", which includes roads, ports, etc., also expanded fast as a result of the heavy infrastructural works undertaken by Government.

2.2 Value Added

Value added by the construction sector during the Second Plan increased faster than gross output rising from £8.9 mln. in 1966 to £14.7 mln. in 1971 at constant 1966 prices, i.e. at an annual rate of growth of 10.5%.

2.3 Employment

Actual employment in the construction sector in 1971 is estimated to have risen to 26,000 persons compared to 21,652 persons in 1966, i.e. employment has increased by about 3.7% per annum. The rate of growth of employment in the construction sector was higher than the rate of increase in total employment for the same period and should be attributed to the fast expansion of the construction sector as such and to the higher increase in the wages paid by the sector. The index of average rates of pay in the sector increased by 71.1% during the period under review, while the average rates of pay in general have increased by 52.7%. The differential between the increase in earnings in this sector and in all activities together has been even higher. Still, during the period 1967–1971 the construction sector faced difficulties with regard to the recruitment of skilled, semi-skilled and unskilled workers.

In an effort to help the industry overcome the problem of scarcity of skilled manpower, the Government introduced, as from 1970, an accelerated training programme for building trades. The courses, which were of a six-month duration, covered the specializations of turners, bricklayers, carpenters/fitters and plasterers. The cost of this programme was covered partly by the Government and partly by the private construction sector.

In addition, other training institutions and schemes, such as the Apprenticeship Training Scheme, the Technical and Vocational Schools and the Higher Technical Institute supplied the construction industry with trained labour.

2.4 Manpower and Productivity

The productivity(¹) of the construction sector increased during the period 1967–1971 by an annual rate of growth of 6.6% which is higher than the 5.9% assumed in the Second Plan. The realized high growth in productivity may be attributed to a variety of factors such as increased training of labour force, further mechanization of the industry, better organization of work, better supervision, higher degree of utilization of inputs due to increased demand, etc. Although there is no evidence as to the contribution of each individual factor, some indications which support the above statement are the increased supply of skilled labour, the increased volume of imports of construction machinery and equipment, the increase in the size of establishments, the increased volume of production and the reduction in the seasonal variations in employment.

Despite the observed increase in the value added per person employed, the absolute level of productivity in terms of volume of production per worker appears to be low compared to the norms prevailing in developed industrialized countries. Some estimates made for the building industry put the productivity in 1969 and 1970 at about 35 man-hours per square meter, which is not satisfactory by international standards. This situation, if correct, should give cause for concern because not only building costs are in this way augmented, but also valuable labour force is uneconomically used, whereas the desired volume of construction, especially of houses, is not attained.

2.5 Inputs of Materials and Machinery

Construction inputs, as shown in Table 3, comprise the difference between " value added " and " gross output ". They consist of the value of all material inputs (imported and domestically produced), as well as such current inputs as fuel and other operating expenses of the construction machinery.

Though there has been some slight improvement in the share of value added to the gross output there is still considerable potential for further improvement. With regard to inputs, the results of an *ad hoc* inquiry indicate that apart from road construction, which is a very mechanized activity, various types of construction activity have more or less the same combination of inputs, as shown in Table 4. The low share of plant overheads indicates that there is still room for further mechanization and/or direct reduction of the relative shares of other components such as labour, which is still high compared to European standards.

(¹) Defined here as value added per person employed.

Output, Employment and Other Inputs of the Construction Sector, 1966–1971

TABLE 3

	1966	1967	1968	1969	1970	1971	Annual Rate of Growth (%)
1. Gross Output (at current prices—£mln.)	17.9	20.6	24.3	28.5	32.4	38.6	16.6
2. Inputs (at current prices—£mln.)	9.0	10.2	12.1	14.0	15.5	19.1	16.2
3. Value Added (at current prices—£mln.)	8.9	10.4	12.2	14.5	16.9	19.5	17.0
4. Value Added (at constant 1966 factor cost—£mln.)	8.9	10.0	11.1	12.4	13.5	14.7	10.5
5. Ratio of Value Added to Gross Output (at current prices)	49.7	50.5	50.2	50.9	52.2	50.5	—
6. Actual Employment (000's)	21.7	23.5	24.3	25.2	25.5	26.0	3.7
7. Investment in Machinery & Equipment (at current prices—£mln.)	1.0	1.0	1.1	0.8	1.6	1.4	7.0

Source : Planning Bureau.

Breakdown of Gross Output of Construction (in the Private Sector) into Main Components

TABLE 4

Component	Hotels	Factories	Flats and Shops	Houses	Roads for Building Plots
1. Labour	30.3	32.7	32.7	33.7	24.1
2. Materials	50.9	45.1	46.7	46.4	40.3
3. Plant Overhead	3.1	5.6	4.1	2.9	18.5
4. Other (including profits) . .	15.7	16.6	16.5	17.0	17.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source : Statistics and Research Department "Construction and Housing Report, 1971 ".

In all types of construction activity, materials, 35% to 40% of which are imported, represent the main component of total gross output. The price index of the construction materials went up by 29.5% during the period 1967–1971. Hence the need for the encouragement of the production and utilization of more locally produced construction materials. Table 5 shows the evolution of the local production of construction materials and the substantial progress made in this field during the period under review.

In spite of the above developments in the local production of construction materials, still an increasing amount of foreign exchange is needed for the importation of such materials, as shown in Table 6. However, in the case of some materials, a particularly pronounced import substitution has taken place during the Second Plan period. For instance, in the case of cement, imports in 1971 amounted to about £258,000 compared to £476,000 in 1966, while during the same period the value of locally produced cement went up by 282%.

Local Production of Some Construction Materials, 1967–1971

TABLE 5

Item	Unit of Measure	1967		1968		1969		1970		1971	
		Quantity	Value (£000's)	Quantity	Value (£000's)	Quantity	Value (£000's)	Quantity	Value (£000's)	Quantity	Value (£000's)
1. Building Stone	tons (000's)	135.8	203.6	167.5	268.0	350.6	560.9	864.6	1,167.2	1,281.5	1,409.7
2. Aggregate	tons (000's)	1,800.0	1,440.0	1,600.0	1,520.0	1,655.2	1,572.4	1,551.0	1,473.5	2,731.0	2,594.5
3. Havara	tons (000's)	350.0	87.5	280.0	75.6	199.5	53.9	311.0	93.3	329.0	98.7
4. Marble	tons (000's)	20.2	35.3	27.0	55.4	38.9	79.7	43.1	99.2	32.7	75.2
5. Lime	tons (000's)	81.8	402.5	93.0	502.2	98.3	431.2	77.6	450.6	105.4	722.1
6. Bricks & Tiles	million	25.0	513.0	30.0	575.0	36.0	653.0	38.0	734.0	40.0	832.0
7. Mosaics	sq. m. (000's)	761.0	844.0	785.0	885.0	830.0	1,056.0	991.0	1,197.0	1,044.0	1,364.0
8. Cement	m. tons (000's)	179.3	1,212.5	233.8	1,576.5	242.6	1,666.0	266.3	1,736.6	303.3	1,986.9
9. Parqué	sq. m.	52.0	71.1	71.6	103.2	92.6	144.2	93.8	155.6	96.5	164.0
10. Paints, varnishes, etc.: (a) Paints	tons	320.0	65.3	235.0	47.7	318.0	52.6	304.0	59.3	418.0	87.2
(b) Paints	gallons (000's)	49.6	46.4	90.0	87.5	94.7	97.7	112.0	121.3	139.1	143.1
(c) Other	—	—	28.4	—	33.2	—	44.7	—	45.8	—	61.0
11. Nails, bolts & nuts	—	—	49.7	—	42.7	—	60.7	—	48.0	—	90.7
Total			**4,999.3**		**5,772.0**		**6,473.0**		**7,381.4**		**9,629.1**

Source : " Construction and Housing Report, 1971 ", Department of Statistics and Research.

TABLE 6

Imports of Selected Construction and Furniture Materials, 1966–1971

(At Current Prices—£000's)

	1966	1967	1968	1969	1970	1971	1967–1971	Indices 1971 (1966 = 100)
1. Wood, Lumber & Cork	653	736	1,235	1,166	1,466	1,764	6,367	270.1
2. Veneers and Plywoods	266	316	446	560	774	902	2,998	339.1
3. Builders' Woodworks ..	21	27	17	85	48	15	192	71.4
4. Building Board ..	48	52	62	56	81	58	309	120.8
5. Paints, Varnishes, etc.	358	400	416	497	482	497	2,292	138.8
6. Cement	476	140	101	316	232	258	1,047	54.2
7. Asbestos, Tubes & Pipes	114	193	177	558	284	187	1,399	164.0
8. Glass	86	106	157	139	152	169	723	196.5
9. Bars & Bolts of Iron & Steel	1,231	1,401	1,645	2,369	3,075	3,689	12,179	299.7
10. Bolts, Nuts, etc. ..	94	111	130	123	183	210	757	223.4
11. Insulated Wire & Cables	272	216	546	452	918	1,042	3,174	383.1
12. Locks, Hinges & Fittings	216	248	276	321	396	404	1,645	187.0
13. Bricks & Tiles	116	125	169	198	275	421	1,188	362.9
14. Sanitary, Plumbing, Heating & Lighting Fixtures & Fittings	463	569	460	627	784	972	3,412	209.9
Total	**4,414**	**4,640**	**5,837**	**7,467**	**9,150**	**10,588**	**37,682**	**239.9**

Source : Compiled by the Planning Bureau from data contained in Import-Export Publications of the Department of Statistics and Research.

2.6 Size of the Construction Firms

During the Second Plan period the number of private construction firms employing 10 or more persons increased from 128 in 1966 to 158 in 1971, while employment increased from 4,427 persons in 1966 to 7,167 persons in 1971 ; average size thus increased significantly from 34.6 persons in 1966 to 45.4 persons in 1971 (Table 7). Despite this significant increase in the size of large units, small construction firms still employ about 60% of the total labour force in the sector.

TABLE 7

Establishments Employing 10 or More Persons by Category of Construction Activity, 1966 and (1971)(1)

	No. of Establishments		Employment No.		Employment per Establishment	
	1966	1971	1966	1971	1966	1971
1. Private Building Contractors	99	120	3,725	6,271	37.6	52.3
2. Electrical Installation Contractors	10	13	298	395	29.8	30.4
3. Other Private Construction Works	19	25	404	501	21.3	20.0
1-3. Total Private Firms ..	128	158	4,427	7,167	34.6	45.4
4. Govt. Construction Works ..	13	13	2,964	2,290	228.0	176.2
5. Municipal Construction Works	6	6	180	155	30.0	25.8
4-5. Public Sector	19	19	3,144	2,445	165.5	128.7
6. British Military Construction Works	1	1	1,203	1,231	1,203	1,231
Grand Total ..	**148**	**178**	**8,774**	**10,843**	**59.3**	**60.9**

Source : (*a*) First Island-wide Manpower Survey, March, 1966.
(*b*) Sixth Island-wide Manpower Survey, March, 1971.
(*c*) Labour Market Survey for 1966, Ministry of Labour and Social Insurance.

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(1) Excludes construction workers employed by the E.A.C. and the Water Development Department.

3. The Third Five-Year Plan

3.1 Anticipated Developments

The pace of expansion of the construction sector is closely related to the rate of growth of the whole economy. The overall rate of growth envisaged in the Third Plan has been set at about 7.3% per annum. The attainment of this rate of growth will necessitate gross investment in fixed capital of the order of £350 mln. at 1970 prices. Using past relationships with regard to the composition of fixed capital formation it is estimated that the construction sector will be responsible for £208.6 mln. or for 59.6% of this investment during the period 1972–1976. Work to be done in the form of repairs and maintenance is estimated to be around £13.6 mln. Thus, the total gross output of the sector during the five-year period is estimated to reach £222.2 mln. at 1970 prices.

3.2 Rate of Growth

Value added by the construction sector is estimated to increase from £18.4 mln. in 1971 to £27.0 mln. in 1976 at 1970 prices, implying a rate of growth of about 8.0% per annum. This rate of growth is higher than the rate of growth of the economy as a whole ; and the construction sector is expected to increase its share in G.D.P. A major part of this expansion is expected to come from further improvements in labour productivity since the labour market will remain again tight and no significant diversion of workers to the construction sector may be possible.

3.3 Composition of Gross Output

As mentioned above, the total gross output of the construction sector during the Third Plan is estimated at £222.2 mln. The distribution of gross output as between various types of construction work is shown in Table 8. As this Table indicates, the gross output of the construction sector is anticipated during the Third Plan period to increase at about 7.4% per annum. The expected increase in gross output is slower than the anticipated increase in value added, underlying the significant increase in efficiency assumed in the Plan. Thus, the ratio of value added to gross output is expected to increase from 51.4% in 1971 to 52.7% in 1976. The gross output attributed to new construction or otherwise the investment part of it is expected to grow at 7.1% per annum. The activity of the construction sector is anticipated to be dominated, as in the Second Plan period, by the construction of dwellings which are assumed to constitute about 50.8% of new investment produced by the construction sector. However, dwellings are anticipated to grow at a slower pace than the sector average, while non-residential buildings are expected to expand fast to satisfy the increasing requirements of the tourist industry.

Gross Output of the Construction Sector, 1971 and 1976

TABLE 8

(At 1970 prices—£mln.)

Type of Gross Output	1971	1976	Annual Rate of Growth (%)	Total 1972–76	Shares (%)
1. Dwellings	18.1	23.5	5.3	106.0	47.7
2. Non-Residential Buildings ..	7.5	13.5	12.5	54.1	24.4
3. Other Construction Works ..	8.3	10.8	5.5	48.5	21.8
1–3. New Construction	33.9	47.8	7.1	208.6	93.9
4. Repairs and Maintenance ..	1.9	3.4	12.3	13.6	6.1
1–4. Gross Output	35.8	51.2	7.4	222.2	100.0

Source : Planning Bureau.

3.4 Manpower and Productivity

The Plan assumes that labour productivity, measured as man-hours required per square meter of construction, will improve substantially from its present comparatively low level. Provided that such an improvement is achieved the numerical expansion of the labour force engaged in construction need not be large. A reduction of the labour component in the cost of new construction, especially buildings, could be achieved by utilizing the labour force more efficiently. Productivity increases could also be obtained through better management techniques, through larger contracts and, especially, through the use of prefabrication in some form, the training of labour force, the introduction of modern mechanical and other equipment, the formation of larger construction firms, etc.

Productivity in the construction sector, measured as real value added per person employed, is thus assumed to be increasing at an annual rate of about 4.8%. This rate is lower than that achieved during the period 1967–1971, but it is higher than that normally anticipated under the expansion prospects of the sector. On the basis of the above, the labour requirements in the sector in 1976 have been estimated at around 30,160 persons, i.e. almost 4,200 more workers during the period 1972–1976. It is estimated that out of these additional labour requirements more than 200 will be professional, technical and related workers such as architects, engineers, surveyors, draughtsmen, etc., 2,500 skilled and semi-skilled workers, and the remaining unskilled and other workers. The required numbers will be forthcoming either from the training institutions and programmes, which will continue to provide the construction industry with trained workers at an expanded scale, but also from professional, technical and related workers currently studying abroad. Moreover, efforts will be made to secure scholarships for such studies in training programmes abroad. The private sector must, however, continue its co-operation with Government on local training programmes, sharing the increasing training costs of these programmes.

3.5 Construction Materials

The gross output of the construction sector consists of about 46% of materials and the remainder 54% of other inputs. On the other hand 60% of the materials used are of local origin while the remaining 40% are imported. Given that the expected gross output of the construction sector during the Third Plan is estimated at £222.2 mln., the required raw materials will be of the order of £102.2 mln., £40.9 mln. of which will be imported. Thus, there is much room for reducing the import content of construction materials and enhancing the development and use of local materials.

A step in this direction has been made by the establishment of the Cyprus Forest Industries, which will produce chipboard and timber for building purposes and promote standardization of these products. However, further identification and development of local construction materials will be undertaken under the auspices of the proposed Standards Institute. Continued efforts will also be made to encourage the use in housing and other projects of local materials and products of local origin. Various possibilities will be investigated such as the viability of a glass factory, a steel rolling mill and units to manufacture black bolts and nuts, building hardware, sanitary ware, insulating wire, vinyl floor tiles, steam-cured concrete blocks to eliminate plaster finishes, asbestos products, especially asbestos-cement long-spanning roof sheets to eliminate imports of timber, and volcanic ash for use in lightweight concrete products.

Particular attention will be directed in undertaking these feasibility studies to the use of volcanic ash, which seems to be available in some quantity, for lightweight concretes. This product could effect savings on foundations especially for multi-storey housing. Priority will also be given to the feasibility study on long-spanning asbestos-cement roof sheets, as used in other parts of the world, for eliminating or reducing the need for timber trusses, such as those required for clay tiles. Both products might have export possibilities.

3.6 Machinery and Other Equipment

It is proposed to carry out a survey with the object of obtaining information on the volume and suitability of existing machinery and equipment so that the needs of the construction industry in modern machinery and other equipment may be properly assessed.

3.7 Industrial Standardization and Quality Control

The cost of construction is considered to be high and efforts will be made during the Third Plan to reduce it. Apart from savings which could be achieved by utilizing the labour force more efficiently, savings could also be effected through standardization especially with regard to dimensions and quality control of construction materials and components, as well as through the introduction of codes of practice for design, building and construction. These tasks will be undertaken by the Institute of Standards which is planned to be established during the Third Plan. For more details on the proposed Institute the reader is referred to the Chapter on Manufacturing.

3.8 Institutional Changes and Other Measures

Apart from standardization and quality control of construction inputs, Government will consider other ways and means of improving the quality of production both for public safety purposes and for general economic reasons. The erection of buildings and the building of roads for dividing land into building sites is governed by the Streets and Buildings (Regulation) Law and the Regulations made thereunder. Although the Law and the the Regulations provide for building applications to be accompanied by plans and specifications of the methods and materials to be used for foundations, walls, floors, roofs, etc., no inspection usually takes place during the implementation stage for these purposes. This lack of inspection, coupled with the lack of obligatory testing of raw materials and in many cases the fact that no soil investigations are carried out, may have consequences and may lead to uneconomic use of resources.

During the Third Plan period, efforts will be made to ensure that the regulations are strictly enforced and that, if necessary, they may be strengthened. Moreover, new legislation or regulations relating to specific issues, e.g. ready-made reinforced concrete blocks, mechanical installations, licensing of building and other contractors will be introduced.

Finally, two other measures, which will have a bearing on the construction industry, will be taken. Because Cyprus is situated within the Mediterranean earthquake belt, a better understanding of the seismicity and the structural geology of the Island will help in the better design of major construction projects, e.g. dams, factories, residential and other buildings. And this will minimize and possibly eliminate the hazards from earthquakes. Already, preparatory work has been made for the establishment of a seismic station within the Geological Survey Department. In parallel, existing legislation will be amended to enable the appropriate authority to require the taking of anti-seismic measures, depending on the area where the project is located.

A properly equipped engineering geology laboratory will also be set up within the Geological Survey Department. It is now widely accepted that an engineering geological investigation is a prerequisite to the initiation of any large construction project. The laboratory will enable the exploration of the overall geoenvironmental situation of certain areas, thus making possible the understanding of problems related to slope stability and mass movements.

CHAPTER 17

TRANSPORT AND COMMUNICATIONS

1. Introduction

The importance of the sector lies primarily in its relevance to the development of the other sectors of the economy rather than in its contribution to Gross Domestic Product. An effective transport and communications system is a necessary condition for sustained economic growth; mobility and accessibility are key factors in the attainment of economic and social progress.

During the Second Plan period, the transport and communications sector was expected to grow at 6.6% per annum. The annual rate of growth ultimately attained was of the order of 9.5% and thus the percentage contribution of the sector to G.D.P. increased slightly from about 11% in 1966 to 11.4% in 1971. This has resulted from the acceleration of the growth rate of the economy and especially of the sectors served by transport and communications. On the other hand, the originally envisaged fixed investment of £40 mln. at 1966 prices was not entirely realized. Total realized investment amounted to £34.7 mln. Estimates of employment in the sector show that in 1971 11,400 persons were engaged in transport and communications compared with 9,700 persons in 1966. The expanded activity in the sector was to a large extent stimulated by the Government development programme. Total Government development expenditure in this sector amounted to £12.3 mln. allocated primarily for the improvement of the road network and port and airport development. Substantial investments were also made by Public Corporations, e.g. the Cyprus Telecommunications Authority.

The transport and communications sector is anticipated to continue its rapid growth during the Third Plan period. Value added is estimated to increase by 7.4% per annum, rising from £20.2 mln. in 1971 to £28.2 mln. in 1976 at constant 1970 prices. Additional employment opportunities are estimated at 1,300 persons, while total investment requirements are of the order of £58.8 mln. compared with £43.3 mln. during the 1967–1971 period, both at constant 1970 prices. A sizeable part of this investment activity will be undertaken by Government and the Public Corporations. In the following paragraphs past and future developments in the sub-sectors comprising the transport and communications sector, i.e. inland transport, shipping, air transport, postal services, telecommunications and broadcasting and television are more analytically discussed.

2. Inland Transport

2.1 Developments during the Second Plan Period

2.1.1 Motor Vehicles in Circulation

The number of motor vehicles (excluding tractors, combines, etc.) in circulation during the period 1967–1971 increased by an average annual rate of 9.7%. As a result, the ratio of persons to motor vehicles fell from 10.3 in 1966 to 6.9 in 1971. Table 1 is relevant.

Motor Vehicles in Circulation by Mode of Transport, 1966 and 1971

TABLE 1

Vehicle Type	1966	1971	Annual Rate of Increase (%) 1967–71	Share (%) 1971
Passenger Vehicles	**48,030**	**78,964**	**10.4**	—
A. PRIVATE :				
Cars	33,228	60,351	12.7	65.1
Motor cycles	10,661	13,647	5.0	14.7
Total	**43,889**	**73,998**	**11.0**	**79.8**
B. PUBLIC :				
Taxis	1,382	1,434	0.8	1.5
Self-drive	435	1,507	28.1	1.6
Omnibuses	2,324	2,025	-2.3	2.3
Total	**4,141**	**4,966**	**3.6**	**5.4**
Goods Vehicles	**10,414**	**13,735**	**5.7**	—
A. PRIVATE :				
Lorries	2,990	3,661(1)	4.1	3.9
Vans, Pick-ups	4,646	6,783	8.0	7.4
Total	**7,636**	**10,444(1)**	**6.5**	**11.3**
B. PUBLIC :				
Lorries	2,778	3,291(1)	3.5	3.5
Total	**2,778**	**3,291(1)**	**3.5**	**3.5**
Grand Total	**58,444**	**92,699**	**9.7**	**100.0**

Source : Department of Statistics and Research, Planning Bureau.

As regards private passenger vehicles, in 1966 there was one private motor vehicle for every 13.7 persons ; by 1971 the ratio dropped to one private motor vehicle for every 8.7 persons. Whereas in 1966, 75.7% of private passenger vehicles consisted of cars, in 1971 the corresponding percentage was 81.6%, reflecting the preference for cars at the expense of motor cycles.

Public passenger vehicles consist of taxis, self-drive cars and omnibuses. Self-drive cars increased from 435 units in 1966 to 1,507 in 1971. These cars are usually hired by tourists and, as was to be expected, the rate of growth of self-drive cars (28.1% per annum) closely followed the rate of increase of tourists (27.0% per annum). The slow growth rate of taxis (0.8% per annum) and the decline in the number of omnibuses is largely to be explained by the growth of the private passenger cars and by increased rationalization made possible with the operation of the Motor Transport (Regulation) Laws.

2.1.2 Value Added and Employment

Table 2 shows the value added resulting from inland transport activities in 1971. It will be seen that the transport of goods is by far the most significant contributor to G.D.P. of all the remaining sub-sectors.

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(1) Estimates.

TABLE 2

Inland Transport Value Added, 1971

Type of Vehicle	£mln.
Taxis and Self-drive Cars	3.2
Omnibuses	2.1
Lorries	7.9
Total	**13.2**

Source : Department of Statistics and Research.

Of the 11,800 persons (including C.B.C.) employed in the transport, storage and communications sector proper in 1971, 9,700 were engaged in inland transportation activities.

2.1.3 Investment

During the five-year period, realized investment in inland transport amounted to £12.4 mln. at constant 1966 prices. This amount represents expenditure on public passenger motor vehicles, goods motor vehicles and other transport equipment, but excludes transport equipment allocated to sectors other than transport.

2.1.4 Imports

As there is no domestic industry, the increase in new vehicle registrations reflects a corresponding increase in imports. Table 3 shows imports of vehicles and parts thereof as well as fuel and other oils for the years 1966 and 1971.

Imports of Motor Vehicles and Parts, Fuel and Motor Oils, 1966 and 1971

(*£000's*)

TABLE 3

Item	1966	1971	Index for 1971 (1966 = 100)
Motor Vehicles	2,533	6,201	244.8
Buses, Trucks and Lorries	563	1,332	236.6
Chassis with engines mounted for buses, trucks, lorries, etc.	433	882	203.7
Motor cycles	85	122	143.5
Road motor vehicles parts and accessories	476	855	179.6
Motor cycles parts and accessories	9	9	100.0
Tyres and tubes for motor vehicles	369	451	122.2
Tyres and tubes for motor cycles	7	14	200.0
Fuels	2,065	6,158	298.2
Lubricating oils and greases	353	627	177.6
Total Imports	**6,893**	**16,651**	**241.6**
Less : Re-exports	802	1,800	224.4
Net Imports	**6,091**	**14,851**	**243.8**

Source : Statistics of Imports and Exports, Planning Bureau.

As Table 3 shows, during the period 1967–1971 net imports increased from £6.1 mln. in 1966 to £14.9 mln. in 1971 or by an annual growth rate of 19.2%, which is higher than the 14.5% rate of growth of total imports. As a result, the share of imports of motor vehicles, spare parts, etc. in total imports increased from 12.5% in 1966 to 15.6% in 1971.

2.1.5 Measures taken during the Second Plan Period

The main developments during the period 1967–1971 were the implementation and strengthening of the Motor Transport (Regulation) Law and the studies carried out on the rationalization of the urban bus transport services.

The Motor Transport (Regulation) Law is intended to regulate passenger and goods vehicles. A Road Transport Advisory Board and a Licensing Authority have been established with power to license and control public service vehicles. The Authority has power to regulate routes, fares, bus stops and time tables.

The question of rationalizing urban bus transport services was particularly examined and a study was undertaken by a foreign consulting firm. The upshot of the study has been the formation of the Nicosia Bus Company with Government technical assistance and loan finance. The object of the reorganization has been the modernization of the services, the raising of standards and the reduction in costs through a more rational use of available means of transportation. Reorganization on similar lines is expected to be undertaken in other towns.

With a view to improving road safety and ensuring efficient transportation of goods and passengers in Nicosia, special studies were also undertaken by the Public Works Department in collaboration with the British Road Research Laboratory.

2.2 The Present Situation

At the end of 1971 there were 92,699 registered motor vehicles in Cyprus. The distribution amongst the various types of vehicles is shown in Table 1. As it can be seen from this Table, about 80% of all vehicles are private passenger and about two-thirds are private cars. Public passenger services, although regulated, are in the hands of private entrepreneurs and are operated by taxis, omnibuses and self-drive cars. City buses have a seating capacity of 35 persons and operate within a radius of 7 miles from the town centre. In addition, towns are connected with regular and frequent taxi services. With regard to rural transport, apart from the existence of excess capacity, there is scope for raising the standard of service, for rationalizing operations and improving profitability.

The transport of goods is effected by means of lorries, vans and pick-ups. Lorries have a capacity of 8–10 tons.

2.3 The Third Plan

2.3.1 Goals and Objectives

Internal transportation policy during the period 1972–1976 will aim at the maintenance of adequate, safe, regular and reliable means of passenger and goods transport at reasonable rates. At the same time the policy will aim towards avoiding, as far as possible, unnecessary waste through duplication of routes, traffic congestion and loss of life from accidents caused by defective vehicles or roads. More specifically, during the Plan period :—

(*a*) a separate service will be established, which will take over responsibility for all matters relating to internal transport ;

(*b*) reorganization of urban bus services will continue and more companies are expected to be set up on the lines of the Nicosia Bus Company. Similarly, efforts will be made to promote the modernization and rationalization of rural bus services ;

(*c*) to facilitate the movement of passenger and goods traffic, more layby bus stops, road signs, etc. will be introduced ;

(*d*) the procedures for the issue and renewal of licences, testing of vehicles, etc. will be simplified ; and

(*e*) transportation studies on the pattern of those undertaken for Nicosia will be extended to the towns of Limassol and Famagusta.

2.3.2 Investment and Development Expenditures

During the Third Plan period investment in equipment is expected to be £20.5 mln. at constant 1970 prices. The Government envisages to incur expenditures (direct or in the form of credit) of the order of £150,000 for the improvement of inland transport services.

2.3.3 Employment

During the same period the number of persons employed in inland transportation services is expected to rise to 10,200 persons.

2.4 Policy Measures

The Government is not presently directly involved in the running of any public transportation system and this policy will continue. Thus in the Third Plan the role of Government will be confined again to the regulation and control of transport services in accordance with the Law and the Regulations. Encouragement and assistance where necessary will also be provided, with a view to promoting efficiency and raising standards. Thus:

(*a*) A Department of Inland Transport will be set up within the Ministry of Communications and Works, which will be responsible for developing and implementing inland transportation policy. It will also undertake functions which are at present shared by various Ministries. Apart from licensing, the new Department will be responsible for vehicle and driver testing, vehicle registration as well as vehicle inspection. With the proposed centralization of responsibility for internal transportation, relevant legislation will have to be codified and consolidated.

(*b*) In Nicosia the grouping of bus operators in one company has reduced overcapacity, eliminated excessive competition and increased the efficiency of the services provided. A reorganization on similar lines in other towns is at present being considered and a bus operating company is likely to be established in Limassol in 1973. Apart from technical assistance and advice, Government usually extends loan finance in such cases. Similarly merges will be encouraged in rural areas. Excess capacity would thus be eliminated and profitability will improve.

(*c*) Other measures include the introduction of taxi-meters, a study of the possibility of establishing central bus stations in the towns, regulation of fares, and measures to make traffic regulation more efficient.

3. Roads and Highways

Road transport is at present the only means of inland communication in Cyprus. The railway was discontinued long ago and a contemplated air link between Nicosia and Paphos is not expected to affect inland transport to any appreciable extent.

3.1 Progress during the Second Plan

During the Second Plan period, more emphasis was placed on upgrading the existing road network rather than on the opening of new roads. Thus, between 1967 and 1971, 528 miles of roads were improved and asphalted. Out of these, 169 miles were within towns and the balance roads linking the various towns and rural communities. During the same period, non-asphalted roads increased by 109 miles primarily as a result of the opening of new forest roads.

Among the most important road development projects carried out were the completion of the new Airport road and the Astromeritis–Karvounas road as well as substantial improvements and reconstruction of large parts of the Famagusta–Apostolos Andreas, Paphos–Polis, Limassol–Agros and Xeros–Prodromos roads. During this period, a Central Road Laboratory was set up within the Road Section of the Public Works Department. As a result, it is now possible to conduct research with a view to evolving techniques of construction adapted to local conditions and materials. The Road Section has also been provided with one mobile testing laboratory unit which undertakes tests on site during construction. Partly with the object of mitigating the problem of labour shortage, modern machinery was acquired such as soil stabilizers, paving and compacting machinery, etc.

The need for better road planning led to the establishment within the Road Section of a Transportation Study Unit. The unit has been collecting valuable data through automatic traffic counters and has also carried out a number of origin/destination studies in connection with major road schemes as well as urban traffic studies. During the Plan period, there was a substantial increase in the staff of the Road Section and a number of road engineers and technicians received training in road planning and research. Other developments during the Second Plan period include the contracting out of major road projects as well as the installation of international signs on a larger number of major and secondary roads.

To meet the needs of the ever-increasing traffic, new design standards have been prepared and are under consideration. In an effort to standardize road construction, a decision was also taken to entrust the asphalting of major forest or District Administration roads to the Public Works Department.

To finance its road development programme, Government incurred during the five-year period expenditure of the order of £5.1 mln. on what are known as P.W.D. roads and on the asphalting of major District Administration roads. However, to form a more comprehensive picture of the overall road development effort, account has to be taken also of expenditures included under other heads, such as forestry, rural development, town planning and municipalities. Table 4 gives such a comprehensive picture. During the same period, total development expenditure on roads by town municipalities amounted to £1.1 mln., part of which was financed through Government loans.

Expenditures on Road Development, 1967–1971

(£000's)

TABLE 4

Type of Expenditure	1967	1968	1969	1970	1971	1967–71
Major and Secondary Roads ..	658	1,129	1,175	881	887	4,730
Farm Roads	20	40	11	28	64	163
Forest Roads	44	26	30	21	24	145
Town Planning Schemes ..	49	122	170	157	148	646
Asphalting of Village Streets ..	57	70	64	72	95	358
Other Government Road Expenditure	49	100	111	120	163	543
Total Direct Government Expenditure ..	**877**	**1,487**	**1,561**	**1,279**	**1,381**	**6,585**
Government Loans to Villages	25	28	28	40	56	177
Municipal Projects	125	114	239	326	279	1,083
Grand Total	**1,027**	**1,629**	**1,828**	**1,645**	**1,716**	**7,845**

Source : Planning Bureau.

With regard to maintenance, realized expenditures (excluding forest and municipal roads) increased by 21% compared with expenditures during the First Plan period.

3.2 Present Situation

At the end of 1971 the total road network of Cyprus consisted of 2,258 miles of asphalted and 2,655 miles of non-asphalted roads, which corresponds to a density of 1.37 miles of road per square mile and compares favourably with most Mediterranean and European Countries. Although some village roads are not yet up to the required standard, there is no village which is not accessible by car. Towns and main rural centres are connected with asphalted roads of a usual width of 18 ft. With regard to forest roads, although these are constructed mainly for the purpose of timber exploitation or for the fighting of forest fires, they are integrated into the road network and some of them constitute important tourist roads.

The Public Works Department is responsible for all trunk roads as well for major village and tourist roads, the District Administration for secondary village roads, the Department of Forests for forest roads and the local authorities for roads within their boundaries.

Table 5 below shows the distribution of roads by district. As will be seen from this Table, despite the high road density, an appreciable proportion of roads are still unasphalted. With regard to individual districts, Paphos has a more dense network than the remaining districts. This should be attributed to the large number of villages in the District as well as to the large proportion of forest roads. The latter factor coupled with the scattered settlement pattern is responsible for the limited mileage of asphalted roads in the District. On the contrary, Larnaca, which has practically no forest roads and has a smaller number of villages most of which are along a few roads, has the lowest road density and the percentage of unasphalted roads is the lowest in the country. Reflecting a higher degree of economic activity, a more extensive asphalted road network is to be found in Nicosia, Famagusta and Limassol Districts.

TABLE 5

Distribution of Roads by District, 1971(¹)

	Area (sq. miles)	Total Roads	Miles of Asphalted Roads per sq. mile	Miles of Unasphalted Roads per sq. mile	Miles of Roads per sq. mile
Nicosia	36%	36%	0.65	0.71	1.36
Kyrenia					
Famagusta	22%	23%	0.68	0.78	1.46
Limassol	15%	14%	0.73	0.60	1.33
Paphos	15%	18%	0.47	1.18	1.65
Larnaca	12%	9%	0.57	0.41	0.98
Total ..	**100%**	**100%**	**0.63**	**0.74**	**1.37**

Source : Planning Bureau.

3.3 The Third Plan

3.3.1 Objectives and Targets of the Plan

The broad policy objectives and targets of the Third Plan are :—

(*a*) To complete the work which has already started for the drawing up of a longer-term (10-year) road development programme and to undertake certain major highway projects.

(*b*) To complete or to step up expenditures on major projects which have already started and to continue work on or to undertake a number of other secondary schemes.

(*c*) To provide asphalted access roads to an increasing number of rural communities which are not presently served by such roads.

(*d*) To pursue further the effort for the unification of the responsibilities for the study, design, construction and maintenance of road projects.

(*e*) To place increasing emphasis on road maintenance.

(*f*) To introduce in certain cases new road standards.

(*g*) To continue the policy of giving out to contract the execution of major projects.

3.3.2 Development Expenditures

The implementation of the road programme envisages development expenditures of the order of £11.5 mln. This amount includes development expenditure on main road arteries and other major schemes, on secondary and

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(¹) Including municipal and forest roads.

access roads, on land acquisition, road signs, traffic surveys and other related expenditure. It does not include expenditure on forest and farm roads, village streets and town planning schemes for which provision is made elsewhere.

The programme will be financed by Government. It is expected, however, that part of the expenditures in connection with certain major projects may be financed from I.B.R.D. credits.

3.3.3 Measures and Policies

Administrative Reorganization : At present a multiplicity of authorities engage in the planning, design, construction and maintenance of roads. It will be an objective of policy to promote further the unification of responsibility for road projects. It is believed that centralization of road activities will ensure co-ordination, enable a more efficient utilization of plant and manpower and ensure the improvement and uniformity of standards.

Ten-year Road Programme : In an effort to put road development on a more rational basis and to adopt some form of perspective planning, Government has already engaged a firm of foreign consultants to prepare a ten-year highway programme. The study is expected to be completed early in 1973. Among others, special attention will be directed to the study of road projects which are necessary for tourist development purposes. In order to ensure optimum allocation of funds, more use will be made of feasibility studies and generally road projects will be subjected to some sort of uniform economic evaluation.

Execution of Projects : The policy introduced during the Second Plan period, whereby the execution of certain major projects is given out to contract, will continue.

Staff and Staff Training : Although contracting out will reduce the pressure on staff, additional professional staff, such as engineers and intermediate technicians, may have to be hired in order to supervise an increasing volume of work. Training of staff will be continued locally and abroad. In particular, courses will be organized locally on materials, asphalt paving and bridge construction at the foreman's level.

Mechanical Equipment : Pending a decision on the centralization of road activities, massive purchases of equipment or the creation of major maintenance facilities at the district level are not justified. The procurement, however, of certain types of equipment will be considered.

Road Standards : There appears to be scope for raising in certain cases existing road standards. A study has already been undertaken and it is expected that a decision will be taken soon.

Parcellation of Projects: The present method of parcellating the road programme into a large number of small projects scattered all over the Island is uneconomic since it leads to a wastage of manpower, materials and machinery, increases overheads and through lack of adequate supervision does not ensure good workmanship. But for reasons other than economic it is not feasible to change the system radically. Nevertheless, some progress could be made in this direction through the contracting out of projects and the speeding up and completion of major projects.

Maintenance : During the Third Plan period, a study on maintenance costs for various types of roads will be carried out and annual allocations for maintenance will be decided on the basis of the type, width and traffic volume of the network.

Road Inventory : In order to be able to assess road requirements, be that in maintenance or improvement, a comprehensive picture of the whole road network is needed which would include age, geometric and topographical characteristics, type of construction, road deficiencies, etc. Advantage will be taken in this connection of the material collected in the study for the formulation of a ten-year road development programme. The collection of reliable statistics is not only necessary for the road inventory, but it is also important for planning purposes as well as for the introduction of a proper costing system.

Road Signs : The existence of appropriate signs along the roads not only facilitates travelling but may also reduce accidents. A lot of work is presently being carried out in this direction, but more co-ordination appears to be needed among the various authorities responsible for roads. Special attention will be given in this connection to secondary roads where road signs are not yet up to the required standard.

Landscaping. Landscaping should be part and parcel of road improvement. This is particularly relevant in cases where new roads are opened and as a result of excavation works the surrounding areas are defaced. In this connection, the services of a landscape architect adviser may be necessary.

4. Ports

For an Island, and particularly for a trading island like Cyprus, which has no railway or road communication with the outside world, the existence of efficient port operations is the only means which can ensure a relatively cheap transportation of goods.

4.1 Developments during the Second Plan

The most important development of the period was the decision to construct deep water harbours in Larnaca and Limassol and a yacht harbour in Larnaca. Work on the Larnaca port commenced in 1969, and in 1970 work began on the construction of a new port in Limassol. With regard to Famagusta, port works comprised ancillary installations such as the construction of a new warehouse, a new open shed and the provision of new accommodation for the customs and the port administration. Minor improvements were also effected to the harbours of Paphos and Kyrenia. Finally, reference should be made to the commissioning of foreign consultants to advise on the organization, operation and administration of the general cargo ports in Cyprus as well as on the establishment of a Port Authority to take over responsibility for the administration and operation of all public ports of the country. The same consultants also studied various other problems related to port development and especially the provision of port equipment for which a programme has already been drawn up and has started being implemented.

To finance its port development programme, the Government incurred expenditure of the order of £5.2 mln. during the five-year period as against £7.6 mln. envisaged in the Plan. The completion of a number of major projects, notably the new ports at Larnaca and Limassol, has been extended into the Third Plan period.

During the Plan period, the number of vessels which entered Cyprus ports increased by 3.2%, the number of passengers arriving or leaving by sea by 1.6% and total tonnage imported by 7.5% per annum. On the contrary, the tonnage exported decreased by an average 1.2% per annum, resulting from a decrease in the export of minerals. During 1971, 3,111 vessels entered Cyprus ports, out of which 562 were passenger ships. In the same year, more than a thousand persons were engaged in port work.

4.2 Present Situation

In Cyprus there are general cargo ports as well as special terminals. The Famagusta port is now the most important harbour of the country handling 88% and 74% of general cargo imports and exports, respectively, and 16% of passenger traffic (¹). The port comprises an inner harbour of a quay length of about 1,750 ft. with a sea depth of 24 ft. and an outer harbour of a quay length of 2,150 ft. with a sea depth of 32 ft. It is equipped with mobile cranes of a lifting capacity of 2–12 tons, a 60-ton floating crane and two tug-boats. The storage capacity of the port consists of 182,869 sq.ft. of covered-in and 96,112 sq.ft. of uncovered space. Dry docking facilities for small craft (up to 500 g.r.t.) are also available.

Limassol is the second most important port of the country. A new port is in the course of construction to the west of the town. At present, ships anchor at about a mile offshore, whereas ships drawing less than 15 ft. of water are allowed to berth in the basin. Limassol handles the largest part of passenger traffic (82%) as well as 10% and 24% of general cargo imports and exports, respectively. The port is equipped with mobile cranes of a lifting capacity of 2–12 tons as well as with a static crane of 25 tons capacity. The storage capacity of the port consists of 34,920 sq.ft. of covered-in and 4,000 sq.ft. of uncovered space.

Larnaca is an open roadstead with a storage capacity of 17,000 sq.ft. A new port is currently being constructed and is expected to be operational by mid-1973. For a number of years now the port handled a very small proportion of general cargo but remained the principal port for the discharge of oil (64%). Oil is also discharged at Dhekelia, Moni and Akrotiri.

The Paphos harbour can accommodate small craft, with a draught of less than 10 ft. Large vessels anchor offshore and load or discharge by means of lighters. The port handles 2% and 1% of general cargo imports and exports, respectively. A few 2-ton mobile cranes are available.

(¹) Figures refer to the average of the period 1969-1971.

The Kyrenia harbour is no longer a commercial port but rather a yacht harbour, while Karavostassi, Vassiliko and Limni are special terminals handling exclusively ore. Karavostassi is by far the most important, handling 85% of mineral exports as against 7% and 8% in the case of Vassiliko and Limni respectively. Loading is done by means of an aerial ropeway at Vassiliko, by means of lighters at Limni and through a modern pylon and lighters at Karavostassi.

Tables 6 and 7 give an account of cargoes and passenger traffic handled by the various ports in 1971.

The main problems comprise (*a*) the lack of adequate port equipment for the handling of both conventional and container cargo ; (*b*) organizational and operational shortcomings ; (*c*) the more rational utilization of capacity which will be available with the completion of the ports of Larnaca, Limassol and Paphos.

TABLE 6

Tonnage Handled through Cyprus Ports in 1971

Port	Tonnage	% to Total	% to Various Categories
General Cargo	**1,314,939**	**46**	**100**
Famagusta	1,090,154	38	83
Limassol	208,532	7	16
Paphos	16,253	1	1
Oil Discharging	**735,232**	**26**	**100**
Larnaca(1)	375,689	13	51
Dhekelia	74,978	3	10
Moni	146,220	5	20
Akrotiri	138,345	5	19
Minerals (2)	**792,760**	**28**	**100**
Karavostassi	633,478	22	80
Vassiliko	84,942	3	11
Limni	74,340	3	9
Total	**2,842,931**	**100**	—

Source : Planning Bureau.

TABLE 7

Passenger Traffic in 1971

Port	Arrivals	Departures	Total	%	Transit	%
Famagusta	4,515	6,734	11,249	19	41,004	63
Limassol	22,645	24,069	46,714	79	23,838	37
Other	526	413	939	2	—	—
Total	**27,686**	**31,216**	**58,902**	**100**	**64,842**	**100**

Source : Annual Report, Department of Ports.

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(1) It includes 3,413 tons of general cargo.

(2) It includes small quantities of imports made in connection with the mining companies' operations.

Note : 108 tons attributed to Kyrenia are excluded from the Table.

4.3 The Third Plan

4.3.1 Objectives and Targets of the Plan

The basic objectives and targets are :—

(*a*) to establish a Port Authority ;

(*b*) to complete the port works in Larnaca and Limassol which have already started and to execute port works in Paphos. The Larnaca port, when completed, will have a quay of 1,070 ft. and a depth of water of 31 ft. Limassol port will have a quay length of 2,624 ft. and a depth of water of 36 ft.;

(*c*) to provide the necessary ancillary installations and equipment ;

(*d*) to reorganize port labour with a view to improving productivity ; and

(*e*) to rationally organize the utilization of port facilities.

4.3.2 Investment Programme

To implement the port development programme, the Government and the Port Authority are expected to incur expenditure of the order of £8.2 mln. during the period of the Third Plan as indicated in Table 8.

Port Development Expenditures, 1972–1976

TABLE 8

Type of Expenditure	£000's
Port Construction	4,683
Ancillary Installations	1,635
Port Equipment	1,206
Land Acquisition	306
Other	365
Total	**8,195**

Source : Planning Bureau.

It should be noted that under "port equipment" provision has been made for the purchase of 3 tug-boats, a number of cranes, trolleys and trailers. Also under "ancillary installations", provision is made for passenger terminals at the three major ports as well as for the construction of transit and produce inspection sheds.

4.4 Measures and Policies

4.4.1 Port Authority

As already mentioned, it is proposed to establish a Port Authority which will be responsible for the operation and administration of ports with a view to improving port efficiency. The relevant draft legislation has already been prepared. Because a number of problems will have to be solved, there may have to be a transitional period during which the Authority will not be fully operational. By the end of 1973, however, the transitional period should be over and the Authority should be in a position to exercise all its functions.

4.4.2 Port Operation

One of the basic principles is that the Authority should function on a commercial basis. For this reason the introduction of a proper accounting system will be necessary. Because the various charges must be related to costs, and in view of the fact that in effect a number of port activities are presently subsidised by Government, certain tariffs and charges may have to be revised. Care will however be taken so as not to impair the competitiveness of exports or to hamper the development of container traffic.

Since the Authority will have to operate on a commercial basis, it will be necessary to pay particular attention to the question of improving productivity. Apart from reducing unit costs, increased productivity will mitigate the problem of congestion during the export season. Productivity will also be enhanced through the modernization of storage methods such as the erection of new warehouses, the correct application of mechanical handling methods, the full use of the stacking height and probably the introduction of a pallet exchange system.

4.4.3 Ancillary Installations

The construction of two new ports at Larnaca and Limassol as well as the provision of a deep water berth at Paphos will require the investment of large sums of money in ancillary installations. It is therefore important to introduce a phased programme and to adhere to priorities.

In view of the fact that the major ports of the country are general cargo ports, special attention will be paid to the question of providing modern transit sheds. Apart from the new sheds in Larnaca and Limassol, a new large warehouse will be erected in the inner port of Famagusta to replace existing sheds, which will have to be demolished as being practically obsolete. Before the building programme is launched, the question of the produce inspection sheds will be re-examined with a view to establishing their optimal location. This is particularly important in the case of Famagusta where land is scarce.

Attention will also be paid to the question of passenger terminals. Limassol seems to command priority in this respect. However, some form of passenger facilities should also be provided in the ports of Famagusta and Larnaca.

Irrespective of whether or not ordinary grain silos will be built in various parts of the Island, a port silo will have to be erected sooner or later since the volume of imports of grain is likely to increase. The location of the silo will be selected due regard being had to economic and technical considerations. The question of port cold-storage and refrigeration facilities has been seriously considered in the past but the project was found to be uneconomic under present conditions. The matter will be reviewed again during the Third Plan period.

The establishment of a free zone/industrial estate has already been the subject of a feasibility study. It is expected that work will commence in the near future.

4.4.4 Handling

Container Handling : For Cyprus to attract container services, it is necessary to provide the appropriate equipment and port organization. As there is already some container traffic in Famagusta, it will be necessary to provide the required stacking area as well as the appropriate equipment. But in view of the limited traffic, a container crane of the overhead gantry type would not be justified. A dockside rail portal crane will be installed instead. When container traffic picks up, similar facilities could be provided in the port of Limassol.

Palletisation : This is an operating development of considerable potential for agricultural exports through both Famagusta and Limassol and efforts will be made to rationalize it. This type of activity is best suited for routes with multiple ports of call. For efficient handling long movement must be separated from the fork lift truck movements and covered sheds with at least 12–14 ft. headroom must be provided.

Roll-on Roll-off : This type of service requires a specialized terminal dock equipped with ramps. Although the scope for developing this kind of cargo is still limited, a decision has been taken to provide this type of service at Larnaca Port in an effort to rationalize the use of ports.

4.4.5 Labour Organization

Efficient labour is the key to efficient port operations. Every effort will accordingly be made to rationalize port labour organization and operation.

5. Shipping

5.1 Developments during the Second Plan

The goals of the Second Plan were: (*a*) to increase the number of ships on the Cyprus register of ships ; (*b*) to provide the legal means to exercise the required control on ships under the Cyprus flag ; and (*c*) to encourage more Cypriots to go to sea. In order to attain these goals, the Government would encourage investment in shipping, encourage more Cypriot ships to trade with the Island, offer scholarships for training Cypriots as officers, engineers and wireless operators, and encourage ship-owners to employ more Cypriots.

During the Plan period, ships on the Cyprus Register increased by 43% p.a., having risen from 69 in 1966 to 426 in 1971 and their respective tonnage by 40% p.a., i.e. from 342,262 to 1,933,000 (Tables 9 and 10). During the same period direct Government revenue from shipping—excluding port dues—increased from £43,368 to £271,349. However, despite this sixfold increase in revenue, the contribution of shipping to the economy is still very small.

TABLE 9 **Number of Ships Registered in Cyprus**

Type of Ship	End of 1966			End of 1971		
	Permanent	Provisional	Total	Permanent	Provisional	Total
Cargo & tankers . .	26	24	50	230	121	351
Passenger . .	2	—	2	9	4	13
Other(1)	17	—	17	41	21	62
Total . .	**45**	**24**	**69**	**280**	**146**	**426**

Source : Ministry of Communications and Works.

(1) It includes trawlers, tugboats and Z craft.

TABLE 10

Tonnage of Ships Registered in Cyprus

(000's *tons*)

Type of Ship	End of 1966			End of 1971		
	Permanent	Provisional	Total	Permanent	Provisional	Total
Cargo & tankers	168	168	336	1,328	540	1,868
Passenger	5	—	5	30	33	63
Other	1	—	1	2	—	2
Total	**174**	**168**	**342**	**1,360**	**573**	**1,933**

Source : Ministry of Communications and Works.

In spite of the above spectacular increase in the number of ships registered in Cyprus, Cypriot ship ownership is still very small.

Although the relevant legislation has been amended, effective control of ships under the Cyprus flag is not yet adequate. In an effort to encourage Cypriots to go to sea, the Government secured during the five-year period 36 scholarhips from Greece.

Between 1966 and 1971 the gross tonnage of cargo imported and exported by sea went up by 18.8% while the number of passengers travelling by sea increased by 8.4%. On the whole, it may be said that, despite the large number of ships on the Cyprus Register, the benefits which have accrued to the economy have been rather limited.

5.2 The Present Situation

Cyprus maintains good communication lines with practically all neighbouring countries as well as with the U.K. and northern Europe. Thus, during 1971 eighteen major lines served passenger traffic to and from the Island with weekly or fortnightly frequencies. Particularly good links exist with Israel, Greece, Italy and the U.A.R. Of the seventy-seven lines which call at Cyprus with general cargo, twenty-one call weekly, 13 fortnightly, 21 monthly and 23 at irregular intervals.

Revenue derived by Government from shipping in 1971 amounted to £271,349, of which 59% emanated from tax on shipping tonnage, 24% from crew fees and 11% from registration fees. As already mentioned, the contribution of shipping to G.N.P. is negligible. On the other hand, foreign exchange used in connection with shipping services amounted to more than £7 million in 1971. No accurate statistics are available of Cypriots employed at sea, but their number should not exceed 300. As a result of the small size of the country and the relatively good road network, no coastal shipping operates.

5.3 The Third Plan

5.3.1 Objectives of the Plan

In view of the role of shipping as a source of revenue and as a potential foreign exchange saver and earner, legislative and other measures will be taken during the Third Plan period (*a*) to increase revenue from merchant shipping; (*b*) to increase the number of ships on the Cyprus

Register of Ships; (*c*) to promote Cypriot investment in shipping; (*d*) to exercise a more effective control over all ships flying the Cyprus flag; and (*e*) to encourage young Cypriots to choose a career at sea.

The development of shipping as a serious new dimension to existing economic activities is becoming all the more necessary in view of the growing need for shipping services and the consequential drain on foreign exchange resources. Available information shows that in 1971 shipping was responsible for a net outflow of foreign exchange of the order of £7.5 mln., which primarily represents payments for freight and insurance made to non-Cypriots. On the other hand, because of the limited number of Cypriots at sea, the remittances of seamen are negligible. Thus, the foreign exchange requirements in respect of shipping services are substantial and with the growth in foreign trade will increase further in the future. In view of its specialized nature, it is unlikely that in the foreseeable future it will be possible to undertake any form of ship insurance in Cyprus. But as far as freight is concerned, foreign exchange needs could be reduced if it were possible to promote Cypriot investment in shipping.

5.3.2 Measures and Policies

(*a*) The existing service within the Ministry of Communications and Works will be strengthened so that it may be in a better position to promote and at the same time exercise a more effective control on shipping. This service will be in close contact with consular offices abroad and will be in a position to collect, analyse and disseminate information to Cypriot ships.

(*b*) Present benefits from shipping could be substantially increased if some of the main offices of companies having ships registered under the Cyprus flag could be established in Cyprus and if Cypriot capital found its way in shipping enterprises. The prospects for Cypriot investment in shipping are good. In the past, lack of tradition and know-how and the limited investment opportunities discouraged any active involvement of Cypriot enterprises in shipping. The Government is considering ways and means of encouraging Cypriot entrepreneurs to undertake shipping activities. It is considered that this is an area in which foreign participation and joint ventures are particularly indicated.

(*c*) The present number of Cypriot seamen is negligible. This is mainly due to the fact that there are good employment opportunities in Cyprus, but also, because of lack of suitable training. During the Third Plan period, an effort will be made to secure more scholarships in nautical colleges abroad. The possibility of training cooks and stewards at the Hotel Training School will also be explored.

(*d*) The building of a shipyard in Cyprus has been considered in the past, but for various reasons the project did not materialize. At this stage, the establishment of bunkering or repair facilities could be considered.

(*e*) Certain amendments to the Merchant Shipping legislation will be necessary ; and work is already in progress.

6. Civil Aviation

6.1 Progress during the Second Plan

Air communications are of vital importance to the economic and social development of a country. This is particularly so for Cyprus, where expansion of tourism without good air communications is not possible. During the Plan period, civil aircraft movements on international flights increased by an average annual rate of growth of 11.2%. At the same time the number of passengers and the volume of cargo carried increased on average by 18.3% and 24.0% per annum, respectively (Table 11).

TABLE 11

Aircraft Movements—Passenger and Cargo Traffic(1)

	1966	1971	Annual Rate of Growth (%) 1967–71
Movements(2)	6,584	11,187	11.2
	(2,372)	(2,703)(3)	(2.6)
Passengers	226,558	524,756	18.2
	(69,779)	(162,446)	(18.4)
Air Freight (kgs.)	3,096,576	9,670,162	24.0
	(1,278,540)	(1,738,000)	(6.3)
Mail (kgs.)	219,470	351,610	9.9
	(14,000)	(216,000)	74.5

Source : Shipping and Aviation Statistics and Cyprus Airways.

The lower growth rates for aircraft movements reflect the introduction of larger aircraft as well as the achievement of higher load factors.

During the period 1967–1971, the air network improved substantially. Thus, apart from Cyprus Airways, which increased its air-route unduplicated mileage fourfold, the number of carriers operating scheduled flights to Cyprus increased from 6 to 20. A number of permits were also granted for charter flights. During the same period, Cyprus became a member of the European Civil Aviation Conference and bilateral air transport agreements were concluded with 10 more countries.

Referring specifically to Cyprus Airways, the most important development of the period was the replacement of the "Viscounts" by Trident 2E jets, the introduction of the Merchantman(4) on the weekly freighter service to London instead of the Argosy, and the formation of a subsidiary company, the "Cyprair Tours", which operates charters on an inclusive tour basis. Moreover, as a result of the establishment of the Company's new catering section, the standard of food offered on the plane has improved considerably.

Among the various infrastructural works carried out, the most important was the completion of a new passenger terminal and a freight hall. Work has also started on the extension of the main runway to 9,700 feet. With a view to improving safety standards and the aeronautical facilities in general, a Visual Approach Slope Indication System was installed on runway 32/14 and the old V.O.R. equipment was replaced by new Visual Omni-directional Beacon/Distance Measuring Equipment. In addition, the Cyprus Telecommunications Authority installed an Automatic Message Switching Centre which automatically processes all the messages relating to air movements. In this connection, reference should also be made to the acquisition of a number of pieces of airport equipment such as passenger steps, trolleys, baggage trailers, etc. On the other hand, the establishment of an airport-based free zone and a full-fledged maintenance unit on the part of Cyprus Airways are still under consideration.

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(1) Figures in brackets refer to Cyprus Airways.
(2) Take-offs and landings.
(3) Including "Cyprair Tours".
(4) Operated by BEA in co-operation with Cyprus Airways.

For the implementation of the above mentioned projects Government and Cyprus Airways spent £1.8 mln. and £3.9 mln., respectively.

6.2 Present Situation

In Cyprus there is only one international airport in Nicosia, which upon completion of the works presently carried out, will be capable of handling all types of aircraft for longer stage lengths without intermediate stops. Apart from two runways, 8,000 and 6,000 feet long, the Nicosia Airport is presently equipped with V.H.F. and V.H.F./D.F. systems, VASIS, VOR/DME, AFTN and as from 1973, an I.L.S. capable of category II performance will also be available.

At present twenty air carriers operate regular services to and from Cyprus, linking Nicosia with Beirut, Tel-Aviv, Damascus, Amman, Baghdad, Ankara, Istanbul, Cairo, Benghazi, Sofia, Rhodes, Athens, Rome, Prague, Berlin, Warsaw, Budapest, Moscow, Frankfurt, Amsterdam, Zurich, London, Nairobi, Mauritius, Seychelles and Lusaka.

Cyprus Airways, the national carrier, operates on eleven routes with frequencies ranging from one to six times a week totalling 28 flights, per week (¹). In 1971, its air-route unduplicated mileage stood at 19,870 miles. During 1971, the number of passengers who passed through Nicosia airport was 524,726, of which 48,371 were transit passengers. Cyprus Airways with its subsidiary "Cyprair Tours" handled 31% of total traffic. At the end of 1971 Cyprus Airways was employing 329 persons, 109 of whom were administrative/clerical and 220 technical staff. In addition, 136 persons were employed by the Department of Civil Aviation.

6.3 Problem Areas

Passenger Facilities : The first or the last impressions of a country are usually the most lasting. It is therefore important to offer good passenger accommodation at the airport and to ensure quick customs clearance for all visitors entering the country by air. Although the Nicosia Terminal Building was completed in 1968, it is already feeling the pressure of increased traffic. The customs hall is congested most of the time and on occasions the handling and clearance of passengers present problems. Problems will arise also in connection with office accommodation for airlines and other services using the Airport.

(¹) Summer schedule.

Aircraft Accommodation : As a result of the use of bigger aircraft and because of the ever-increasing number of aircraft movements, the parking apron can no longer cope with peak traffic and will have to be extended. Improvements will also have to be effected in connection with the taxiways.

Navigational Aids and Control Services : The present physical separation of the two control systems, namely the Air Control and the Approach and Aerodrome Control Services, presents difficulties. Also, despite marked improvements in the recent past, additional navigational aids are needed.

Airport Equipment : The ever-increasing expansion of aircraft movements as well as the increase in passenger and cargo traffic, have exerted pressure on existing airport equipment. The procurement of additional equipment for a speedier and more economical handling is necessary.

Transit Traffic : Transit traffic presently attracted to Cyprus is limited.

6.4 The Third Five-Year Plan

6.4.1 Objectives and Targets of the Plan

The main objectives and targets of the Third Plan may be summarized as follows :

(*a*) to complete the extension of the main runway to 9,700 ft., to install an Instrument Landing System along with the necessary approach and runway lighting, improve the taxiways and create parking facilities for additional aircraft ;

(*b*) to extend the Terminal Building as well as the Freight Hall, to introduce a quicker and more efficient system for handling passengers and luggage and to simplify formalities in connection with incoming passengers ;

(*c*) to procure the necessary airport handling equipment, to unify Air Traffic Control Services and modernize relevant equipment ;

(*d*) to reduce air fares where this is possible ;

(*e*) to generate more traffic to Cyprus through the negotiation of more bilateral air transport agreements ; and

(*f*) to study the possibility of introducing internal air services.

6.4.2 Development Expenditures, 1972–1976

To implement the above programme, the Government envisages expenditures of the order of £2,280,000 during the five-year period, as shown in Table 12.

TABLE 12 **Government Development Expenditures, 1972–1976**

	£000's
Aerodrome and Visual Aids	969
Building and Handling Systems	659
Navigational Aids	518
Airport Equipment	111
Staff and Training	23
Total	**2,280**

Source : Planning Bureau.

In the above programme provision is made for airport facilities at Paphos, on the assumption that the project now under consideration will go ahead, the construction of new joint air traffic control premises, the replacement of some of the equipment, the provision of a secondary surveillance radar, and the installation of new escalators and the extension of existing baggage conveyor systems in the Terminal Building.

As far as Cyprus Airways is concerned, the Company is planning to invest during the same period a sum of £13 mln. The programme envisages the acquisition by the Company of two Tridents 1E together with a freighter in 1973 and the purchase of a wide bodied aircraft in 1975. During this period the Company is also planning to erect new head offices.

6.4.3 Finance

The Civil Aviation programme will be financed by Government. Nevertheless, it is anticipated that financial assistance in the form of grants will be forthcoming from abroad in connection with projects relating to navigational aids as well as the unification of the air traffic control services.

Although a very high proportion of the investment envisaged in connection with Civil Aviation will be in the form of foreign currency and although practically all the heavy investment in connection with Cyprus Airways will also be in terms of foreign currency, the overall activities in connection with Civil Aviation are expected to result, during the five-year period, in a net surplus on the balance of payments of the order of £4.8 mln.

6.4.4 Training

Training requirements in connection with the staff of the Department of Civil Aviation comprise familiarization attachments, radar service, air traffic control, as well as short courses in airworthiness, airport management, accident investigation and air transport. The training programme of Cyprus Airways comprises courses in general management, supervision and administration, familiarization visits, locally and abroad, as well as training on the job. In addition, the refresher and induction courses for the cabin staff and the Pilots Scholarship scheme, whereby young Cypriots are sent abroad to qualify as professional pilots, will continue.

6.5 Other Projects, Measures and Policies

Passenger Accommodation and Handling Facilities : In order to cater for traffic in the years to come, the Government will expand passenger accommodation and handling facilities presently offered at the airport. In particular, the customs hall will be expanded and additional space will be made available to the airlines and the administration of the airport. Furthermore, the extension of the aircraft parking area will make necessary the introduction of a system which will minimize inconvenience to passengers and will make possible an efficient handling of baggage. In view of the nature of the scheme advice from foreign consultants might be sought.

Navigational Aids : In order to keep up with technological developments additional navigational aids will be provided. In particular, the number of aircraft overflying Cyprus will very likely necessitate the introduction of a surveillance radar.

Revenue : Relevant to the financial viability of the airport is the question of revenue. The question of revising various charges is currently being studied.

Statistics : Due to lack of statistical data, planning in connection with airport development is made difficult. A comparison of supply and demand cannot be made and the various requirements in connection with the airport are not always identified in time. It is, therefore, important that an efficient system for the collection and analysis of data be introduced.

Transit Traffic : Cyprus is strategically situated from the point of view of air communications. Transit traffic is, however, still negligible. With a view to ascertaining whether Cyprus could become a transit centre, a study will be undertaken which will examine the specific measures and policies which may have to be introduced for this purpose.

Bilateral Agreements : The policy of concluding bilateral agreements will be continued. Attention will be directed to countries with tourist potential.

Charter Flights : Charter flights and particularly inclusive tours are becoming increasingly popular and are likely to play an important role in the efforts to promote tourism. However, because of the danger of abuse applications for charter operations will continue to be considered on their merits.

Air Fares : Fares on international routes are fixed by I.A.T.A. Efforts will continue to be made for a reduction of fares where this is possible.

Air Freight : At present most of the air freight is carried on passenger aircraft and, apart from the shortage of space, air freight is expensive. Besides facilitating the export of certain goods, the development of air freight could become a substantial source of revenue for Cyprus Airways. However, a number of problems have to be overcome such as the lack of advance programming on the part of exporters and the fact that at present the majority of air cargoes consist of fruit and vegetables which are low rated commodities. In this connection, Cyprus Airways is contemplating to acquire a freighter. Although no detailed market research has as yet been carried out, there are indications that there will be sufficient demand, at least on the Nicosia–London route, to justify such a venture.

Maintenance Facilities : With the acquisition of additional aircraft, the introduction of maintenance and repair facilities at the Nicosia airport on the part of Cyprus Airways will merit serious consideration. It may well be that foreign airlines flying to Cyprus may take advantage of these facilities.

Free Zone : The establishment of a free zone at the airport was considered in the past, but it was not proceeded with because of other urgent needs. The issue will be taken up again during the Third Plan period.

Internal Air Services : A licence to establish an internal air link between Nicosia and Paphos has already been granted to a private company. At present the Government is investigating the viability of such a venture, before any funds are spent on the necessary infrastructural works.

7. Telecommunications

The rapid expansion of industrial and commercial activities during the last decade and the attainment of a higher standard of living have led to a growing demand for more and better telecommunications.

7.1 Progress during the Second Plan

The most important development during the period 1967 1971 in the field of internal communications was the introduction of the automatic trunk dialling system and the establishment of satellite telephone exchange stations which made possible the expansion of the telephone network. As far as overseas communications are concerned, the most important developments were the introduction of the telex system, the establishment of direct telephone connections with four more countries and the improvement of the existing services through such systems as the tropospheric scatter with Greece, the Lincompex with the U.K. and the V.H.F. with Lebanon and Israel. Ship-to-shore communications were also improved with the purchase of additional equipment as well as the provision of the service on a 24-hour basis. Finally, the installation of the A.F.T.N. was an important improvement for both civil aviation facilities and the telegraph traffic.

During the same period 16,800 new direct telephone lines were installed. 60 more villages were connected with the telephone network and 38 public telephone booths were installed throughout the Island.

In order to finance its development programme, the Cyprus Telecommunications Authority spent during this period £5.4 mln. and surpassed by far the investment target envisaged for the Plan period.

7.2 Present Situation

At present, the telephone network links all the urban centres as well as 81% of the rural communities. A small number of other villages (5% of the total), is served by the Forest Department's telephone network. At the end of 1971 there were 34,827 direct public telephone lines of which 93% were in urban and 7% in rural areas. As one would expect, the highest number of telephones in urban areas is found in Nicosia, reflecting the relatively dense concentration of population and the higher degree of commercial and industrial activity. The distribution of telephones by district at the end of 1971 was as follows :—

Nicosia	..	55.9%	Larnaca	..	6.3%
Famagusta	..	15.2%	Paphos	..	2.5%
Limassol	..	17.5%	Kyrenia	..	2.6%

On the whole, telephone density in Cyprus compares very favourably with that of the neighbouring countries, but lags substantially behind when compared to Western European countries.

In 1971 the number of local and trunk calls made was 73,713,000, whereas the corresponding figure for overseas calls stood at 159,000.

As far as overseas communications are concerned, Cyprus is presently linked through radiotelephone with London, Rome, Stockholm, Montreal, Athens, Beirut, Tel-Aviv, Geneva, Cairo and Damascus.

Telegraph offices are to be found in all towns, the hill resorts and a number of rural centres. In terms of channels, there are presently 23 duplex channels, 12 of which are used for the public and 11 for the Department of Civil Aviation. During 1971 inland and overseas telegram traffic amounted to 100,882 and 142,792, respectively.

The use of the telex service, especially for overseas calls, increased considerably in 1971, the number of outgoing and local calls being 91,567 and 1,051,288, respectively.

At the end of 1971 CY.T.A. was employing 1,452 persons.

7.3 Main Problems

The main problems of the Authority may be summarized as follows :—

Finance : The total borrowings of the Authority at the end of 1971 were £4,569,452. This places a heavy burden on the Authority in the form of debt servicing and makes the financing of the future development plan difficult.

Accommodation : The Authority is presently housed in a number of separate buildings. This presents problems of supervision and co-ordination.

Staff : Technological developments in the field of telecommunications and the continuous acquisition of new equipment require extensive training. Furthermore, automation has led to some redundancies.

Planning-Statistics : The Authority has made creditable efforts to use systematic planning in connection with its future operations. Nevertheless, planning is not detailed enough and there is a need for more statistical data.

7.4 The Third Five-Year Plan

7.4.1 Objectives and Targets

The overall objectives and targets of the Authority have been formulated within the framework of expansion, modernization and efficient operation of telecommunications at home and overseas. Thus, the main targets of the Plan are :—

(*a*) to increase by 1976 the number of telephones to 80,000 ;

(*b*) to expand the subscribers' automatic trunk dialling system to the entire country ;

(*c*) to complete the automation of the telex service by 1974 ;

(*d*) to introduce the international subscribers' automatic dialling system ;

(*e*) to establish a submarine cable link with Greece, Syria and Lebanon ; and

(*f*) to build new head offices.

7.4.2 Investment Programme

In order to achieve its targets CY.T.A. worked out an investment programme which is expected to cost £7.3 mln. The largest part of these expenditures will be taken up by telephone exchanges, subscribers' telephone network, subscribers' apparatus, and Wireless Stations. The development plan does not, however, take into account the proposed submarine cable link between Greece–Cyprus–Lebanon–Syria, which is likely to be installed by 1974.

7.4.3. Finance

The above investment programme is anticipated to be financed to a very large extent by the Authority's operating surplus and the balance by means of long-term credits on the part of suppliers of equipment. Pressure on the balance of payments, however, will be mitigated by the fact that Cyprus will attract transit traffic from the Middle East to Europe and *vice-versa*, which during the 5-year period is expected to bring about a net inflow of foreign currency of the order of £300,000.

7.4.4 Employment

Because of the limited building programme of the Authority and the introduction of automatic facilities no appreciable demand will be made on labour and no additional staff is anticipated.

7.5 Policies and Measures

Rates : To meet increasing costs and to finance its development programme, the Authority will have to revise its rates.

Training : To meet the needs of technological development the Authority will have to embark on a rather heavy training programme. This will take place at the Authority's technical school, the local technical schools, at the workshops of overseas suppliers of equipment, at the Greek Telecommunications School as well as in universities and colleges abroad.

Statistics–Planning : CY.T.A. is already compiling useful statistical information about its activities and telecommunications in general. At present, however, each department collects and compiles its own statistics. In this connection it is felt that more co-ordination of statistical collection, compilation and analysis is needed which will at the same time facilitate future planning of supply and demand for each kind of service rendered by CY.T.A. and ensure coherence and consistency of such planning.

Co-ordination : Co-ordination may be looked upon from three angles : (*a*) co-ordination of the various public utilities in connection with the provision of underground services ; (*b*) co-ordination pertaining to technical matters between CY.T.A. and C.B.C.; and (*c*) co-ordination between CY.T.A. and the various Government Departments with a view to providing in time the services which are necessary for the implementation of various development projects.

8. Postal Services

8.1 Progress during the Second Plan

The major objectives set out in the Second Plan and the progress made were as follows :—

Daily Delivery of mail to all villages : This objective was only partly achieved, mainly because of the internal situation. However, during the

Plan period, daily delivery of mail was extended to another 59 villages. There now remain another 52 communities where mail frequency is still three times a week.

Extension of the house-to-house delivery service : During the five-year period this kind of service was extended to the suburbs of Limassol and Nicosia as well as to the villages of Lapithos and Karavas. As from 1970, home delivery of registered letters has also been established in the six main towns and their suburbs.

Establishment of a Service for the delivery of parcels of small value as well as " express " letters : The former type of service has in effect been introduced in the main towns. The latter type of service, however, has not yet been introduced.

In its efforts to improve the service to the public, the Department of Posts established during the Plan period fifty-five postal agencies and fourteen new post offices, of which nine were in the towns and five in the rural centres. Progress with regard to the philatelic activities is reflected in the twenty-five new stamp issues during the Plan period as well as in the sale of stamps to philatelists which in 1971 fetched the amount of £70,000.

With the acquisition of new vending and franking machines, mechanization was promoted further, but because of the delay in implementing the Limassol District Post Office ,Scheme the building programme of the Department lagged somewhat behind.

During the Plan period development expenditure of the order of £147,000 was incurred as against £150,000 provided in the Plan.

8.2 Present Situation

At the end of 1971 there were throughout the country 946 postal agencies selling stamps or accepting and despatching mail. Of these agencies thirty-one were in a position to transact postal order business as well. In addition, the public was served by 44 departmental post offices which could handle all kinds of postal work. Table 13 shows postal offices and agencies by district.

TABLE 13

Number of Postal Offices and Agencies by District, 1971

	Postal(1) Offices	Postal Order Agencies	Postal Agencies	Total
Nicosia(2)	17 (12)	12	276	305
Famagusta	10 (4)	5	146	161
Limassol(2)	8 (4)	7	216	231
Paphos	2 (1)	4	138	144
Larnaca	5 (2)	1	75	81
Kyrenia	2 (1)	2	64	68
Total	**44 (24)**	**31**	**915**	**990**

Source : Annual Report of the Department of Posts.

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(1) Figures in parenthesis refer to town offices.

(2) The figures include summer offices.

91% of the rural communities have a daily mail service ; in the remaining 9% mail is delivered three times a week. Mail between the four larger towns is carried three times a day, whereas the conveyance of mail to and from Paphos, Kyrenia and Morphou is done twice a day.

8.3 The Third Five-Year Plan

8.3.1 Objectives and Targets

The main objectives and targets of the Plan may be summarized as follows :—

(*a*) *Next-day Delivery*

This objective, i.e., the delivery of inland letters on the day following the day of posting, is in line with one of the goals set for the current development decade by the Tokyo Congress of the U.P.U. in 1969, i.e. the next-day delivery of inland letters within a radius of 500 kilometres.

(*b*) *Improvement of Airmail Services*

With more carriers coming to Cyprus there is scope to establish new direct mail services with a number of countries and to increase the existing mail frequencies. Moreover, an effort will be made for outgoing airmail correspondence to be despatched on the day of posting and for incoming mail to be delivered promptly.

(*c*) *Daily Delivery of Mail to all Villages*

The intention is to provide, eventually, the remaining communities with a daily mail service. Furthermore, an effort will be made to provide motorized mail conveyance to eleven communities where this type of service is not presently available.

(*d*) *Extension of the House-to-house Delivery to Rural Centres*

Apart from urban centres, this service will be extended to rural areas. This will be done gradually and account will be taken of the volume of postal traffic.

(*e*) " *Express* " *Service*

During the Third Plan period the " express " service will be introduced.

(*f*) *Other Improvements*

Postal services are expected to be improved further through—

(i) the introduction of control procedures, both statistical and inspectorial, so as to maintain proper and unified standards of service at all postal offices ;

(ii) the establishment of new branch offices in towns as well as in the major rural centres ; and

(iii) the mechanization of certain activities, not only in connection with counter, but also mail service.

(g) *Postal Savings*

Consideration is being given to the question of extending the money order service of the Department and introducing a giro and a postal savings bank service. Expert advice has already been sought on the latter issues.

8.3.2 Development Expenditures, 1972–1976

The implementation of the programme of the postal services which will be wholly financed by Government will require development expenditures of the order of £390,000 for which provision is made in the Plan.

9. Broadcasting

Despite the high literacy rate and the existence of adequate means of education in Cyprus, the radio and T.V. continue to be the most powerful of all the mass media. Moreover, they are no longer looked upon only as a source of entertainment but also as a means for meeting educational and social needs.

9.1 Appraisal of the Second Plan

The period 1967–1971 is characterized by both quantitative and qualitative improvements. Thus, weekly radio broadcasting increased from 198 to 241 hours, whereas T.V. programmes almost doubled, having increased from 16 to 31 hours per week with emphasis on the so-called "mixed programmes". In the case of T.V. qualitative improvements found their expression primarily in the presentation of forty plays, the production of a number of documentaries as well as in a significant increase in the presentation of live programmes, which, from 5% in 1966 by 1971 reached 29% of all the T.V. programmes. In addition, a number of new or improved programmes were introduced in both the radio and the T.V. programmes. Reference should also be made to the Cyprus Broadcasting Corporation theatrical group which made a significant contribution to the country's cultural activities.

During this period, the Corporation invested an amount of £338,716 which compared with the planned target of £796,775 gives a rather low rate of fulfilment. This is due to the fact that a number of schemes involving the purchase of costly equipment did not materialize because of financial or technical reasons. However, on the whole, it may be said that C.B.C. has basically achieved its objectives in the sense that it succeeded to expand as well as to improve its programmes significantly.

During the same period the number of wireless and T.V. sets increased by an average annual rate of 4.5% and 22.5%, respectively.

9.2 Present Situation

The number of wireless and T.V. subscribers at the end of 1971 stood at 173,921 and 58,062, respectively. Thus, there is now one radio set for every 3.7 persons and one T.V. set for every 11 inhabitants, ratios which compare favourably with developed countries. According to the findings of a survey carried out recently, 242,000 and 170,000 of the Greek adult [1] population listen to the radio and view T.V., respectively.

C.B.C. is the country's broadcasting station, offering on its two channels radio programmes totalling 241 hours per week. Programmes on channel 1 are presented wholly in Greek, whereas programmes on channel 2 are 19% in Greek, 40% in Turkish, 21% in English, 2% in Armenian and 18% in other languages. From the point of view of content, the programmes are entertainment (58%), informative (11%), cultural (23%) and mixed (8%). Of the T.V. programmes 24% are informative, 8% cultural and 68% entertainment. The major sources of revenue of the Corporation consist of advertising (49%), subscription fees (42%) and a Government subvention (7%). With regard to expenditures, the largest part is taken up by salaries and wages and programme fees. In 1971, the Corporation employed 444 persons. In addition, a fairly large number of persons were employed on a part time basis as contributors to the various programmes.

9.3 The Third Plan

9.3.1 Objectives and Targets

The main targets of the Corporation during the Third Plan are :

(*a*) *Television*

(*a*) To expand the locally produced programmes ;
(*b*) to expand Saturday viewing hours to six ;
(*c*) to link Cyprus with a telecommunications satellite ; and
(*d*) to acquire the necessary equipment.

(*b*) *Radio*

To introduce the FM System.

9.3.2 Investment Programme

To achieve its targets and objectives the Corporation envisages to incur development expenditures of the order of £1,742,000 as indicated in Table 14.

Investment Expenditure, 1972–1976

TABLE 14

Type of Investment	£000's
F.M. Scheme	650
Satellite Earth Station	490
Extension to Buildings	100
Other Equipment	502
Total	**1,742**

Source : C.B.C. Revised Five-Year Plan.

The Corporation will require externally additional funds of the order of £350,000. Part of this amount will be provided by Government in the form of a long-term loan. In fact the problem of finance is the number one problem facing the C.B.C. A way must be found to increase revenues so as to enable the Corporation to cover current expenditures and to keep abreast with developments in this field.

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[1] Over 15 years of age.

PART IV

Social Policies and Human Resource Development

CHAPTER 18

HEALTH

1. Introduction

From an economic point of view the direct contribution of the medical and health sector to Gross Domestic Product is relatively small. Nevertheless, its significance is disproportionate to its contribution to G.D.P., since the performance of the medical services sector determines to a large extent the standard of health of the people and the productivity of manpower.

There are now three general systems of medical services in Cyprus, viz.: (*a*) the public health services which provide treatment free or at reduced fees on the basis of an incomes test ; (*b*) the private health services which are available to all citizens who can afford to pay for such services ; and (*c*) a number of uncoordinated medical care schemes covering specified sections of the population. These include : (i) the civil service health scheme, the Government contributory social security scheme and a number of employer-sponsored arrangements, all of which provide free medical care through existing public health facilities ; (ii) the industrial medical services operating their own hospitals or clinics ; and (iii) the Trade Unions' voluntary insurance schemes and the small employers' schemes which provide certain medical benefits either through out-patients dispensaries or, more generally, on the basis of a partial reimbursement of medical expenses.

Apart from the curative services offered by both the public and the private sector, the Public Health Services, in co-operation with other Ministries and the Municipal Authorities, are also concerned with the provision of preventive health services in the form of health education, inoculations, control of epidemic and infectious diseases, the disposal of sewage, the control of the quality of drinking water, foodstuffs, etc., all designed to eliminate the environmental hazards and to improve the health standards of the population.

2. The Second Five-Year Plan, 1967–1971

2.1 Objectives of the Second Plan

The development strategy for the medical and health sector during the Second Plan period was geared towards the general improvement and strengthening of the public health services, while some action for the regulation and further improvement of standards in the private medical services was to be undertaken. Such a policy was considered appropriate in order to prepare the ground for the gradual introduction of some form of National Health Scheme at a later and more opportune time. The long-term objectives were summarized in the Plan to be (*a*) the establishment of an efficient and effective programme of preventive medicine and hygiene and (*b*) the provision of the best possible medical care and attention to all citizens.

More specifically, the objectives of the Second Plan were :

(*a*) *Public Health Services*

(i) The quantitative and qualitative improvement of medical and paramedical staff.

(ii) The development of a sound preventive medical and public health service.

(iii) The improvement and expansion of hospital accommodation and the equipment of public hospitals with modern facilities.

(iv) The improvement of the vital and health statistical data and records.

(*b*) *Private Health Services*

(i) Consideration of the possibility of introducing measures designed to ensure minimum standards.

(ii) The examination of the possibility of encouraging the establishment of polyclinics by the private sector.

2.2 Progress during the Second Plan

2.2.1 General

(i) STANDARD OF HEALTH IN CYPRUS

There is no single indicator which could adequately define the standard of health of a country, but a number of indicators considered together may serve this purpose. Such indicators, like the infant mortality rate, the expectation of life at birth, etc., in Cyprus compare favourably with those found in advanced countries (Table 1). Other indicators, like the ratios of population to doctors and dentists, number of pharmacists, nursing personnel and hospital bed capacity also compare favourably with other countries and have shown a significant improvement over the period 1967–71 (Tables 1 and 2).

TABLE 1

Indicators of Health Standards in Various Selected Countries

	Crude Birth Rate	Crude Death Rate	Infant Mortality Rate	Expectation of Life at Birth (Male)	Population per—			Govt. Health Expenditure as a % of total Govt. Expenditure
					Doctor	Dentist	Hospital Bed	
Cyprus(1)	**21.7**	**6.4**	**25.3**	**71.4**	**1,179**	**3,473**	**200**	**5.7**
Israel ..	27.3	7.2	24.8(*b*)	70.4(*d*)	400	2,000	170	2.6(*b*)
U.A.R. ..	38.2(*b*)	16.2(*b*)	83.2(*c*)	51.6(*e*)	1,950(*a*)	15,800(*a*)	470(*a*)	4.6(*a*)
Lebanon ..	29.8(*b*)	4.6(*b*)	—	—	1,470(*a*)	5,070(*a*)	250(*a*)	3.7(*b*)
Syria ..	33.0(*c*)	4.6(*c*)	28.2(*d*)	—	3,760	16,200	1,000	—
Greece ..	16.3	8.3	34.4(*b*)	67.5(*e*)	640(*a*)	2,230(*a*)	160	8.6(*b*)
Turkey ..	43.0(*d*)	16.6(*d*)	155.0(*d*)	53.7(*d*)	2,220	10,840	490	4.1(*b*)
France ..	16.7	10.6	20.4	68.2(*d*)	750	2,430	180(*b*)	—
United Kingdom	16.0	11.9	18.8(*b*)	68.1(*e*)	820	3,730	110	16.2(*b*)

Source : World Health Statistics Report, W.H.O.

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(1) The figures for Cyprus refer to 1971. Figures for other countries refer to 1970 except where otherwise indicated, as follows :
(*a*) 1969, (*b*) 1968, (*c*) 1967, (*d*) 1966, (*e*) prior to 1966.

Further proof of the relatively high standard of health in Cyprus is provided by the general absence of quarantinable epidemic diseases. As will be seen from Table 3, the morbidity from infective and parasitic diseases has been declining.

TABLE 2 **Available Resources in Medical and Paramedical Personnel and Hospital Beds, 1966 and 1971**

	1966		1971	
	Public	Private	Public	Private
MEDICAL PERSONNEL(1)				
(a) Doctors	106	351	148	394
(b) Dentists	12	165	17	167
NURSING PERSONNEL(2) :				
(a) Senior Nurses	87	283	259	63
(b) Assistant Nurses	153		540	13
(c) Practical and Other Nursing Staff	230		106	298
(d) Midwives	52	26	92	28
(e) Community Health Visitors	16	—	34	—
OTHER PARAMEDICAL PERSONNEL :				
(a) Pharmacists(3)	45	148	60	167
(b) Health Inspectors (4)	79	—	96	—
HOSPITAL BEDS :				
(a) General(5)	910	1,182	992	1,324
(b) Special(6)	833	—	912	—

Sources : The Annual Registers, the Annual Medical Report, the Statistical Abstracts and the Ministry of Health.

TABLE 3 **Cases of Certain Notifiable Diseases, 1960, 1966 and 1971**

	1960	1966	1971
1. Scarlet Fever	11	29	3
2. Diphtheria	225	20	1
3. Meningitis	6	12	1
4. Tuberculosis	209	121	102
5. Typhoid Fever	76	12	3
6. Basic Dysentery	135	8	10
7. Poliomyelitis	34	1	1
8. Leprosy	13	2	1
9. Echinococciasis(7)	—	—	35

Source : Ministry of Health, Annual Report.

(ii) MEDICAL AND PARAMEDICAL PERSONNEL AND HOSPITAL AND OTHER HEALTH FACILITIES

During the Second Plan period, the available medical and paramedical personnel and hospital and other health facilities increased substantially in both the public and the private sectors. The public health sector, however, grew much faster and increased its share in available facilities, except in the case of general hospital bed capacity (Table 2). By the end of the Plan period, there were more doctors, pharmacists, nursing and other paramedical staff available than at the beginning with the nursing staff position making a striking improvement. This is a very significant development in as much as shortage of nursing staff meant, *inter alia*, a high proportion of unutilized bed capacity in public hospitals.

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(1) The number of doctors and dentists in private employment are residuals from the register after deducting those in Government employment. Government doctors include those in Administration. It includes Turkish doctors and dentists.

(2) The number of midwives are those in public employment and a small number estimated to be employed in the private sector.

(3) Includes veterinary pharmacists and Turkish pharmacists.

(4) Includes Health Inspectors with the Town Municipalities.

(5) Includes Rural Health Centres.

(6) Includes the Psychiatric, Kyperounda, Saint Charalambos and Isolation Hospitals and excludes Turkish establishments.

(7) Echinococciasis became notifiable in 1969.

The overall ratio of population per doctor has improved from 1,317 persons per doctor in 1966 to 1,179 in 1971. However, the ratio of population per dentist did not show any improvement. This ratio increased from 3,401 persons per dentist to 3,473 in the respective years. The improvement in nursing personnel can be seen from the fall of the ratio from 711 persons per qualified nurse (including midwives, nurses and other nursing personnel) in 1966 to 446 in 1971 or, to put it in another way, the number of nurses per 100 hospital beds (both general and special) increased from 29 to 44, respectively. The ratio of general hospital beds per thousand of the population showed only a small improvement, having risen from 3.48 in 1966 to 3.62 in 1971.

2.2.2 The Public Health Services

A total of £1.5 mln. of development expenditure was provisionally allocated in the Second Plan for the public medical and health sector. The largest provision was earmarked for the erection of a New General Hospital in Nicosia and for related facilities. There has since been a review of the conception of the project. Feasibility studies have also been carried out by foreign consultants, but for technical and other reasons the project is still in the preparatory stage. For this reason, the rate of utilization of development funds has been low. Actual development expenditure amounted to £695,000 for the whole 1967–1971 period, which is nevertheless more than double the realised development expenditure over the First Plan period (Table 4).

Development Expenditures on Medical and Health Services, 1962–1966 and 1967–1971

(*£000's*)

TABLE 4

	First Plan	Second Plan Allocation	Second Plan Realised
1. Construction of New General Hospital, Nicosia	—	700.0	—
2. Improvements to the existing Nicosia General Hospital	54.3	65.0	51.5
3. Improvements to and Expansion of Psychiatric Hospital	133.6	90.0	114.3
4. Improvements to and Expansion of District Hospitals	28.4	200.0	141.3
5. Improvements to and Expansion of Out-Patients Clinics	17.5	75.0	8.6
6. Improvements to Preventive Health Services	0.4	70.0	24.1
7. Purchase of Equipment	66.7	80.0	146.2
8. Auxiliary Building Construction	—	160.0	195.0
(*a*) New Analytical Laboratory	—	90.0	106.1
(*b*) New Medical Stores	—	70.0	88.9
9. Rural Health Centres	13.1	—	—
10. Other	9.0	60.0	14.0
Total	**323.0**	**1,500.0**	**695.0**

Source : Second Plan, Financial Reports.

The revision of salaries and other components of emoluments and the increasing recurrent expenditure necessary for the improvement of the quality of public health services financed through the Ordinary Budget has meant that total expenditure on health between 1966 and 1971 jumped from £1.3 mln. to £2.8 mln. representing an increase of more than 100%. As a percentage of overall Government expenditures this meant an increase from 5.1% in 1966 to 5.7% in 1971. The recruitment of ~~an~~ increasing number of medical and paramedical staff as well as the supply of additional facilities has enabled the examination and treatment of a substantially higher number of patients, as follows :—

	1966	1971
In-patients ..	26,401	30,402
Out-patients(¹) ..	637,362	798,386

A more detailed appraisal of the progress recorded in the public health services during the period under review is presented in the following paragraphs :

(a) *Quantitative and Qualitative Improvement of Medical and Paramedical Staff*

Medical Personnel : During the period of the Plan, improvements were effected in the remuneration and the conditions of service of the medical and paramedical staff. On the other hand, the number of doctors in the public sector increased from 106 in 1966 to 148 in 1971. The engagement of a larger number of specialists has allowed the provision of more adequate specialist services in a variety of fields, e.g. Neurosurgery, Thoracic Surgery, Radiotherapy and Ophthalmology at the Nicosia General Hospital and Radiology, Paediatrics, Internal Medicine, Anaesthetics, Ophthalmology, Gynaecology, Orthopaedics and Physiotherapy at the District Hospitals.

Paramedical Personnel : A summary picture of developments in the paramedical staff of the public health services was presented in Table 2. The spectacular increase in paramedical staff indicates clearly the progress achieved in this field. An illustration of the improvement made is provided by the evolution of the ratio of nurses per 100 hospital beds. Between the years 1966 and 1971, in the case of general hospitals (including the tuberculosis and the leprosy hospitals) the ratio went up from 40 to 74 nurses per 100 beds and in the case of the psychiatric hospital from 12 to 39 nurses.

Training of Medical and Paramedical Personnel : With no medical school in Cyprus, the needs in medical personnel are satisfied by means of training abroad. The number of medical students has always been large enough to allow for an increase in the number of registered doctors and a lowering of the ratio of population per doctor.

The needs in specialist and post-graduate training in the public sector have been largely satisfied through the Government's training programme. During the period 1967–1971 a total of 29 scholarships were awarded by foreign Governments and International Organisations to doctors working in the public sector for post-graduate training in such fields as orthopaedics, psychiatry, cardiology, internal medicine, pathology, urology, etc.

(¹) Only medical attendances.

Training courses for nursing personnel are offered at the Nursing Schools of the Nicosia General Hospital and the Psychiatric Hospital. In 1971 training courses for assistant nurses were organized for the first time at the Famagusta and Limassol District Hospitals. The number of nurses who completed their studies at the two schools between the years 1967–1971 is given in Table 5.

TABLE 5

Nursing Schools' Graduates, 1967–1971

	1967	1968	1969	1970	1971	Total
GENERAL NURSING :						
Senior Nurses	5	9	—	33	15	62
Assistant Nurses	23	13	32	60	29	157
Community Health Visitors . .	—	10	3	—	—	13
Midwives	14	8	—	9	5	36
MENTAL NURSING :						
Senior Nurses	—	—	20	13	14	47
Assistant Nurses	18	30	49	28	23	148
Total	**60**	**70**	**104**	**143**	**86**	**463**

Source : Ministry of Health.

Along with the programme for *ab initio* training of nurses in the nursing schools, a programme for post-graduate specialization of qualified nurses was operated. A total of 19 scholarships were awarded during the period 1967–1971 for specialisation in various fields of nursing, while an additional 15 scholarships were awarded for *ab initio* training abroad. Under the same scholarship programme, 30 scholarships were also awarded to other paramedical personnel.

(*b*) *Preventive Medical and Public Health Services*

The main target of the programme was the eventual eradication of echinococciasis and leprosy. Echinococciasis, being the most prevalent and serious endemic disease, received priority and for the first time in 1969 was declared to be a notifiable disease. The long-term programme for the control of the disease included (i) the carrying out of educational campaigns ; (ii) the prevention of canine infestation through improved slaughtering practices ; (iii) the destruction of unregistered dogs ; (iv) the more systematic treatment of registered dogs ; and (v) other supporting legislation. The first results of the antiechinococciasis campaign have been reported to be very promising.

Other developments include the integration of a leprosy control service into the Dermatological Department of the Nicosia General Hospital. The aim is to trace and detect leprosy cases as part of the new effort to effect the complete eradication of the disease. A school dental service has also been started. The first mobile dental unit was put into operation in October, 1971 and two more units were scheduled to come into service early in 1972.

In an effort to maintain adequate control on food and drugs sold in the market, the existing Food and Drugs Law was amended and a special Food Hygiene Board was established for the purpose of ensuring adequate supervision and control of foodstuffs. Another measure was the enactment of the Drugs (Quality, Supply and Prices Control) Law, 1967 for the control of pharmaceutical preparations.

(c) *Improvement and Expansion of Hospital Accommodation and Provision of Modern Equipment and Facilities*

The Second Plan directed attention to the improvement and expansion of hospital accommodation and the supply of modern equipment and other facilities. Most of the completed projects were of an improvement nature. The case in which the most substantial increase in bed capacity took place was that of the Psychiatric Hospital, but expansion was also effected at the Nicosia and the District Hospitals. A new Isolation Hospital was built with a capacity of 27 beds to replace the old one. The change in the capacity of the various hospitals effected during the 1967–1971 period is shown in Table 6.

Bed Capacity of Public Hospitals, 1966 and 1971

TABLE 6

	1966	1971
Nicosia General Hospital	427	473
District Hospitals	374	401
Rural Health Centres(¹)	109	118
Psychiatric Hospital	706	758
T.B. and Leprosy Hospitals	127	127
Isolation Hospital	—	27
Total	**1,743**	**1,904**

Source : Ministry of Health, Annual Report.

The main projects envisaged in the Second Plan and the progress achieved during the period 1967–1971 are discussed in greater detail in the paragraphs below.

New General Hospital : As already explained, implementation of this project, for the first phase of which a sum of £700,000 was earmarked in the Plan, has not yet started. This is a major project for which a great deal of preparatory work and planning is needed. It is expected however that the studies already made will permit commencement of work during the Third Plan.

Remodelling of the Nicosia General Hospital : The growth of the Nicosia General Hospital over the last twenty years has rendered its operation difficult ; a number of alterations and renovations were needed. During the Second Plan period, certain structural changes were effected which were designed to increase efficiency, improve the standard of service and increase the facilities provided at the Hospital. A total of £51,000 was actually spent on a number of schemes which included the erection of Isotopes and Dental Laboratories, the conversion of the male orthopaedic ward into a neurosurgical ward, the extension of the out-patients department, etc. Thoracic, neurosurgical and ophthalmic departments were also established.

Improvement and Expansion of the Psychiatric Hospital : The Second Plan provided a total of £90,000 for the improvement and extension of the Psychiatric Hospital and the establishment of psychiatric wings at the Famagusta and Limassol Hospitals. Due to unforeseen difficulties, the

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(¹) Does not include 5 Rural Health Centres which are not now used by the Public Health Authorities.

emphasis was diverted during the period towards the execution of urgent works needed at the main Psychiatric Hospital in Nicosia. The number of in-patients was greatly taxing existing bed capacity so that a major programme of expansion was undertaken, which included the erection of five new wards with an additonal capacity of about 200 beds, some of which were completed in 1971 ; the rest are expected to come into operation early in 1972. A number of other minor schemes were also completed, such as a new assembly hall, a new visitors waiting room, central heating installation, etc., all at a cost of £114,000.

Improvement and Expansion of District Hospitals : The main target of the Plan with regard to District Hospitals was to expand accommodation and facilities in order to enable medical services to be more readily available and relieve congestion at the Nicosia General Hospital. A tentative allocation of £200,000 was made in the Plan which included provision for the possible erection of a New Hospital at Kyrenia, which is now expected to be carried out in the Third Plan period.

One of the major facilities provided during the period under review was the installation of central heating in all Hospitals. Other projects included the establishment of physiotherapy units at the Famagusta and Limassol Hospitals and the addition of a new female ward, alterations to the male and children's wards and additions to the nurses' home at Paphos. At the Larnaca Hospital the existing kitchen was converted into a maternity ward and a new kitchen was erected, while the dental clinic was converted into a casualty department and a new clinic was constructed. Pathological laboratories were established at the Famagusta, Limassol, Larnaca, Paphos and Kyrenia Hospitals.

Auxiliary Building Construction : Two major projects were implemented within the category of auxiliary facilities, i.e., the erection of a new Analytical Laboratory and of New Medical Stores, at an estimated total cost of £200,000.

Equipment and Appliances : Finally, one of the aims of the Second Plan was to provide hospitals with modern facilities to enable them to function smoothly and efficiently, as modern medical treatment today leans heavily on equipment. By the end of 1971 a sum of £146,000 has been spent on the purchase of medical equipment. In addition, during the same period, the public health services were provided with almost £80,000 worth of equipment under the Ordinary Budget. In this respect, a cobalt unit was set up in the Nicosia General Hospital, new X-ray units were provided to the Nicosia, Famagusta, Limassol and Larnaca Hospitals and a Radioisotope Unit was installed in the Nicosia General Hospital.

(*d*) *Reorganization of Record Keeping and Health Statistics*

It was envisaged that during the Plan period an efficient statistics and record keeping system would be devised for purposes of planning and evaluating the effectiveness of health activities. A number of measures have been taken to further this goal. Thus, two WHO experts were invited to study and make recommendations on the collection and organization of health statistics. Simultaneously, a scholarship was secured for a Cypriot to train in the field of Vital and Health Statistics.

(*e*) *Rural Health Services*

The Second Plan envisaged the carrying out of a detailed evaluation of the existing Government system of Rural Health Centres. The question was whether to retain these services in their present form and to improve them, or, alternatively, whether to replace them with an entirely different structure. For this purpose, the Government invited a WHO expert, who examined the problem and submitted proposals. His main recommendation was that Rural Health Centres served a valuable purpose and until a major reorganization of the public health services was undertaken they should be maintained. Their main function should be to serve as out-patients centres, although curative services could be provided selectively depending on the conditions of the area to be served. The expert also made recommendations which would enable the preparation and implementation of a long-term programme of improvement of the Rural Health Centres.

2.2.3 The Private Health Services

Almost 80% of the qualified doctors and dentists are in the private sector, which also commands over 40% of the available hospital bed capacity in the country. One of the problems of the sector is the shortage of qualified nursing personnel. The most important growth took place in the supply of private hospital beds, which increased by about 150 beds over the whole 1967–1971 period..

3. The Present Situation

The decade of the 1960's has witnessed a general improvement of the medical and health services of the country. The number of medical and paramedical personnel as well as hospital bed capacity increased substantially and their ratios to population have considerably improved. It should be borne in mind, however, that the standard of health of the population does not depend on the availability and quality of medical personnel and facilities only, but also on other factors such as climate, dietary habits, etc.; and these latter also have been contributory factors to the attainment and maintenance of a high standard of health in Cyprus.

Despite the progress recorded, there are still a number of problems in the way of attaining an even higher standard of health comparable to that obtaining in more advanced countries. A summary exposition of the areas to which attention will be directed during the Third Plan period is given below :—

(*a*) There is scope for further qualitative improvement both in the public and the private sectors.

(*b*) The contact and co-operation between the private and the public health sectors appear to be inadequate, although with the recent introduction of part-time employment of private specialists in the public services the situation has improved.

(*c*) There is a serious deficiency in the availability of statistical information especially with regard to the private sector. There is little information concerning the utilization of available bed capacity or the types and incidence of diseases treated and very little is known on the epidemiology of the Cyprus population. This lack of information hampers the task of the planners in evaluating existing conditions and drawing up programmes for the future.

(*d*) The distribution of hospital bed capacity by category of illness does not always correspond to the incidence of disease or to the medical needs of the population, but is largely the result of historical or other factors. Private clinics mainly concentrate on two types of specialist services (maternity-gynaecological and general surgery) which together account for more than 60% of private hospital bed capacity. Much of this capacity belongs to very small private clinics.

(*e*) Although the availability of medical and health resources (manpower, bed capacity, other facilities, etc.), is considered to be generally satisfactory, it would appear that there is scope for improving the degree of utilization of these resources. The same applies to the utilization of a number of public hospitals.

(*f*) There is scope for enhancing the standard and quality of preventive medicine and eliminating as far as possible public health hazards.

4. The Third Five-Year Plan, 1972–1976

4.1 Objectives and Prospects

As stated in the Second Plan, the long-term objectives in the field of health are to attain a high standard of health services so as to offer the best possible medical care and attention to all citizens and to implement an effective programme of preventive medicine and hygiene thereby minimizing the incidence of disease.

The possibility of introducing some form of National Health Service is being examined. However, it would appear that such a scheme cannot be implemented successfully in the immediate future. In the first place, the introduction of such a scheme would necessarily impose a heavy strain on the available medical resources and, unless such resources are reasonably abundant, there will be a dangerous lowering of standards. Moreover, the organizational, administrative and financial aspects of the scheme must be fully studied and planned in advance so that the transition from the existing to the new situation may be smooth.

More specifically, the goals and objectives of the Third Plan will be :—

(*a*) to effect further quantitative and qualitative improvements to the public health services in terms of manpower, medical and paramedical ;

(*b*) to expand hospital capacity and equip public hospitals with more equipment and facilities ;

(*c*) to ensure more efficient utilization of existing and new resources and facilities ;

(*d*) to improve the information and data collecting system for demographic and vital and health statistics ;

(*e*) to continue conducting detailed studies on the organizational, administrative, financial, and other aspects of the proposal for the introduction of some form of national health scheme ;

(*f*) to encourage and regulate private medical services so as to ensure the best possible utilization of available resources and further improvement of standards ;

(*g*) to continue the efforts for the improvement of preventive medicine and public health activities.

The direction of action to be taken and the prospects for attaining these objectives during the Third Plan period are explained in the paragraphs which follow.

4.2 Means for Attaining the Plan Objectives

4.2.1 Public Health Services

(i) PERSONNEL

Medical : The period of the Second Plan has witnessed a substantial improvement in the staffing of the public health sector. Nevertheless, the ratio of population per doctor and dentist appear to be lower than that of the private sector. During the Third Plan period this ratio will be improved through the recruitment of more qualified doctors and dentists. Increasing the medical staff in the public health services is not expected to be a major problem given that in 1970/71, 948 Cypriot students abroad were studying medicine and another 122 dentistry. The scholarship programme mainly for post-graduate specialization will also be continued.

Paramedical : It is anticipated that during the Third Plan period the remaining gaps in nursing and other paramedical staff will be filled. The operation of the local nursing schools and the increased number of students studying nursing abroad will ensure that adequate nursing personnel will be forthcoming both for the public and the private sectors. The anticipated net output of the local nursing schools will be about 400 nurses, who, together with those now receiving training in institutions abroad, (more than 100 during the 1970/71 academic year), will more than satisfy current shortages and future requirements of the public sector and will leave a wide margin of qualified nurses for employment in the private sector. In addition, the programme of scholarships for training and retraining in nursing and other paramedical specializations to meet more specific needs will be continued.

(ii) HOSPITAL FACILITIES

It is believed that there is further scope for a selective expansion of hospital bed capacity especially in the public sector. However, measures will be taken during the period of the Plan to tackle organizational, staffing and equipping problems with a view to raising the degree of utilization. In this respect, a training programme for lay hospital administrators will be prepared. Also, a new system of admission of patients to public hospitals will be studied.

In the programme for the expansion of hospital bed capacity, first priority will be given to the erection of a New General Hospital in Nicosia. However, because of its complexity and size, it is not expected to be fully operational by 1976. The programme will also include the erection of a new Hospital in Kyrenia, expansions at the Limassol and Famagusta District Hospitals, the erection of Rural Hospitals at Morphou and Polis, and various other extensions and improvements at the Nicosia, Larnaca and Paphos Hospitals.

Analytically, the main projects are :—

New Nicosia General Hospital : A total of £2.5 mln. has been allocated in the Third Plan to cover part of the project.

Improvements to the Nicosia General Hospital : Until the erection of the New General Hospital, a number of improvements and minor projects will be undertaken at the existing Nicosia General Hospital to meet pressing needs. A sum of £200,000 has been earmarked for such projects as neurosurgery and new operating theatres, a new VD Department, a second Cobalt Unit, an emergency surgical ward, an intensive care unit and a number of other minor works.

Expansion and Improvement to the Psychiatric Hospital : Although an intensive programme was implemented during the past five-year period to relieve congestion at the hospital, it is still anticipated that the available capacity will not be sufficient. Completion of the continuing projects will expand capacity by another 100 beds. A further small expansion will be undertaken, while other major projects will facilitate the qualitative improvement of the services rendered at the hospital. The question of providing both out-patient and in-patient psychiatric treatment at the main district hospitals will be re-examined.

A tentative allocation of £150,000 has been made in the Plan to enable the implementation of various projects, including a medical and a children's ward, the extension of the administrative wing, the completion of the installation of central heating, the construction of a new kitchen and other minor projects.

District Hospitals : The Second Plan went a long way towards improving the conditions at the District Hospitals and rendering them more self-reliant units. However, most of the developments were qualitative in nature. The Third Plan's target is to expand capacity and improve further quality standards. For this purpose, a master plan will be prepared for the Limassol, Famagusta and Paphos hospitals, which will take into account the medical needs in their respective areas and chart the necessary expansion programmes over the next 10–15 years. A sum of £550,000 has been provided in the Plan for the erection of a new hospital in Kyrenia, new operating theatres, ENT and Orthopaedic Wards and new laundries at the Limassol and Famagusta Hospitals, a paediatrics department at the Larnaca and new wards at the Paphos hospitals.

Rural Health Services : The pilot scheme for new Rural Health Centres at Polis and Morphou will enable Government to determine the direction of reform and reorganization needed with regard to rural health services

Present thinking is oriented towards replacing existing rural hospitals with fewer but better staffed and equipped hospitals in major rural centres. The above two rural hospitals will be of a 30-bed capacity each. A total of £250,000 is provided in the Third Plan for this purpose.

Equipment : The use of up-to-date medical equipment and tools in both the preventive and curative services is an essential prerequisite for raising the quality of medical services. Additional equipment will be made available for such services as cancer treatment, neurosurgery, orthopaedics, occupational therapy, physiotherapy, X-ray and the various laboratories. Although major provisions for equipment are also made under each project described above, an additional separate provision of £150,000 has also been made without taking into account expenditure on equipment usually incurred under the Ordinary Budget.

(iii) AUXILIARY HEALTH FACILITIES

During the Third Plan, attention will also be given to the balanced growth of auxiliary facilities, e.g. strengthening of existing and establishing new physiotherapy centres, expansion of laboratories, establishment of new auxiliary services, artificial limbs and appliances workshop, etc. The general improvement of all secondary facilities like operating theatres, medical stores, blood banks as well as improvement of the general surroundings of public hospitals are already provided for under other items. Furthermore, the Plan has earmarked a total of £50,000 to enable the completion of the New Analytical Laboratory and the Medical Stores, the establishment of an Artificial Limbs and Appliances Workshop, the in-depth study of the problem of spastic children and other similar schemes.

(iv) PREVENTIVE HEALTH SERVICES

Efforts will be made to strengthen the preventive health services and to make them more effective by ensuring better co-operation and co-ordination between the competent Departments, including those responsible for the preservation of the environment. An educational health service will promote and co-ordinate preventive health activities. The school dental health service will be expanded. Moreover, concerted action in co-operation with the Veterinary Services Department will be directed towards eradicating a number of endemic diseases still presenting hazards, although to a lesser degree than before, with the antiechinococciasis campaign taking priority. The problem of refuse disposal also will be studied. A sum of £100,000 is provided for the above programmes in the Plan. Note should also be taken of measures to eliminate environmental hazards. During the Third Plan, the sewerage systems of Famagusta and Nicosia will be replaced with new modern methods of sewerage disposal.

(v) VITAL AND HEALTH STATISTICS

The establishment of a vital and health statistics service during the Second Plan period has filled a long-felt gap. During the Third Plan the service will be strengthened through proper organization and through effective power to collect the necessary statistics. As already indicated, this service is considered to be of vital importance for the proper planning of the development of the health services.

4.2.2 Private Health Sector

During the Third Plan period, efforts will be directed towards encouraging and where necessary regulating private medical services so as to enable further improvements in standards and the best possible utilization of resources. Regulations will be designed to ensure minimum standards of service, the submission of proper returns to the vital and health statistics service, etc. Public nursing schools and overseas training will cater for a large part of the needs of the private sector in trained nursing personnel. Engagement in group practice and the establishment of polyclinics will be encouraged. At the same time, an appropriate mechanism will be set up to ensure better consultation and co-operation between the public and the private sectors. Finally, the question of pricing of drugs and other medicines will also be looked into.

4.2.3 Development Expenditures, 1972–1976

The table below summarizes the development expenditures allocated for the financing of the various projects and programmes of the Third Plan.

	£000's
1. New General Hospital	2,500
2. Nicosia General Hospital	200
3. Psychiatric Institution	150
4. District Hospitals	550
5. Rural Health Centres	250
6. Equipment	150
7. Auxiliary Health Facilities	50
8. Preventive Health Services	100
9. Other	50
Total	**4,000**

CHAPTER 19

EDUCATION (1)

(Including Cultural Development)

1. Introduction

The contribution of education to economic and social development cannot be overemphasized. Its crucial role both as a form of long-term investment in human resources and as a medium for the attainment of individual and social progress has enhanced its significance. The high priority attached by Government to education is evident from its decision to extend gradually as from the school year 1972/73 free education beyond the primary school level to the level of the first cycle of secondary schooling.

2. The Second Five-Year Plan, 1967–1971

2.1 Objectives of the Second Plan

The objectives of the Second Plan may be summarized as follows :—

(*a*) To effect qualitative improvements at all levels.

(*b*) To satisfy the immediate needs of the economy in trained manpower.

(*c*) To pave the way for the eventual introduction of free education for the first three years of secondary education.

(*d*) To encourage and promote cultural activities.

2.2 Progress during the Second Plan

2.2.1 Overall Developments

The educational sector has registered one of the fastest rates of growth both in terms of value added and employment. The contribution of the sector to G.D.P. at constant 1966 prices increased at an annual rate of 11.0%, rising from £3.8 mln. in 1966 to £6.4 mln. in 1971 (including Turkish Education). Total employment in the sector showed an annual rate of growth of 5.7%, increasing from a level of about 4,700 to 6,200 persons during the same period. Even more significant has been the growth of expenditure on all types of education (excluding Turkish Education but including expenditure of Cypriot students abroad) which has more than doubled between 1966 and 1971, having risen from £5.4 mln. to £11.0 mln. and having increased its share in G.N.P. from 3.5% to 4.3% respectively.

An intercountry comparison, shown in Table 1, bears out the fact that Cyprus has reached a high standard of education.

The most significant developments during the 1967–1971 period were :—

(*a*) the qualitative improvement at all levels of education as measured by the improved pupil/teacher ratio. The overall ratio in all levels of both private and public educational institutions improved from 29.1 to 24.2 between the school years 1966/67 and 1971/72. This was achieved through the recruitment of more teachers, whose number increased from 3,785 to 4,818 ;

(*b*) the growth in the enrolment of pupils in secondary, post-secondary and pre-elementary education as opposed to the substantial decline noted in the case of enrolments in elementary education ;

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(1) Due to lack of reliable data, this Chapter (except where otherwise stated) does not cover Turkish Education.

Comparative Educational Indicators for a Selected Group of Countries(¹)

TABLE 1

Countries	Enrolment Ratios		Pupil/Teacher Ratios	
	Elementary	Secondary	Elementary	Secondary
Cyprus	**94**	**72**	**30**	**21**
Israel	94(*b*)	54(*b*)	18	10
U.A.R.	70	30	40	23
Lebanon	115	32	19	n.a.
Syria	83	33	37	20
Greece	98	58	33(*a*)	36(*a*)
Turkey (*a*)	92	25	42	47
France	124	66	24	17
U.K. (*a*)	98	58	28	18
Sweden	99	63	16(*a*)	11(*a*)
Germany, W.	99	99	32	22
Czechoslovakia	97	37	21	17

Source : UNESCO Statistical Yearbook 1970, IBRD Table of Comparative Educational Indicators.

(*c*) the rising proportion of elementary school leavers enrolling in secondary schools of all types, which increased from 75.5% in 1967/68 to 84.6% by 1971/72 and the increasing number of children who stay on to complete secondary education ;

(*d*) the substantial investment programme undertaken to expand educational facilities which reached the level of £4.5 mln. over the whole 1967–1971 period as against £1.7 mln. realised during the 1962–1966 period (at current prices(²)) ; and

(*e*) the increasing annual Government expenditures allocated through the Ordinary and the Development Budgets for education and cultural development. Total Government expenditures on the educational and cultural activities of the Ministry of Education increased from about £3 mln. in 1966 to £6.0 mln. in 1971 or from 12.1% to 12.4% of total expenditures, respectively.

2.2.2 Developments by Level of Education

(i) PRE-ELEMENTARY EDUCATION

Developments in pre-elementary education were characterized by a substantial expansion of the number of schools, pupils and teaching staff as shown in Table 2.

Pre-elementary Schools, Pupils and Teachers 1966/67 and 1971/72

TABLE 2

	1966/67			1971/72		
	Schools No.	Pupils No.	Teachers No.	Schools No.	Pupils No.	Teachers No.
Pre-elementary Schools	**60**	**2,849**	**127**	**98**	**4,173**	**216**
Public Kindergartens	9	483	18	9	636	25
Private Kindergartens (approved)	27	1,318	54	30	1,335	73
Private Kindergartens (inter-communal)	4	269	11	8	360	19
Day Care Nurseries	20	779	44	51	1,842	99

Source : Statistics of education in Cyprus.

(¹) Figures for Cyprus refer to 1971. For other countries they refer to 1968 except where otherwise indicated, i.e. (*a*) 1969 and (*b*) 1967.

(²) The former figure includes £0.6 mln. invested by the private sector, whereas the latter refers to the public sector only.

The recorded expansion took place mainly in urban areas. It is estimated that by 1971 about 10% of the children in the 3–5½ age group were enrolling in such institutions. The growth of private kindergartens and day care nurseries was brought under further control and supervision through legislative amendments introduced by the Ministries of Education and Labour (Department of Welfare Services) with a view to ensuring minimum standards.

(ii) ELEMENTARY EDUCATION

Two main developments were noted in elementary education : firstly the substantial fall in the number of enrolments and, secondly, the higher quality standards attained. Table 3 shows the number of schools, the number of pupils enrolled in various schools of elementary education and the number of teachers in the school years 1966/67 and 1971/72.

Number of Schools, Pupils and Teachers of Elementary Education, 1966/67 and 1971/72

TABLE 3

	1966/67				1971/72			
	Schools	Pupils	Teachers	Pupil/Teacher Ratio	Schools	Pupils	Teachers	Pupil/Teacher Ratio
Elementary Schools ..	**552**	**72,335**	**2,121**	**34.1**	**556**	**65,468**	**2,243**	**29.2**
Public ..	542	71,317	2,060	34.6	546	64,415	2,165	29.8
Public Armenian	4	256	24	10.7	4	187	23	8.1
Private Intercommunal ..	6	762	37	20.6	6	866	55	15.7

Source : Statistics of Education in Cyprus.

In the 1971/72 school year elementary education had the smallest number of enrolments compared with those in each year of the preceding decade. Enrolments climbed up appreciably between 1960/61 and 1966/67, from 68,057 to 72,335, respectively, but ever since the number of pupils has been on the decline. This decline may be attributed to the complete abolition of the practice of repeating classes in the higher classes and its substantial reduction in the first two classes and possibly to demographic factors.

The fall in the number of pupils coupled with the recruitment of additional teachers permitted a substantial improvement in the pupil/teacher ratio from 34.1 to 29.2 between 1966/67 and 1971/72. This, together with the large investment in new school buildings and equipment and the increasing expenditure on teaching aids per pupil, have resulted in further qualitative improvements in elementary education.

Public Elementary Education : The main objective of the Second Plan was qualitative improvement. This objective has been attained to a very large extent through the reduction in the pupil/teacher ratio, the erection of a large number of school buildings and the supply of modern equipment.

The pupil/teacher ratio was reduced from 34.6 in 1966/67 to 29.8 in 1971/72. The improvement in the pupil/teacher ratio was more pronounced in urban areas than in rural areas. Thus, in the former the ratio was reduced from 36.6 to 29.9, and in the latter from 33.5 to 29.7. An effort was made to raise the level of training of teachers through a three-year course (as opposed to the former two-year course) at the Paedagogical Academy, through in-service training and through a programme of post-graduate scholarships.

The number of schools increased only marginally from 542 to 546. On the other hand, a number of one and two-teacher schools were closed down, and a number of smaller villages were grouped for elementary school purposes. 16 additional schools were established in urban areas. These developments allowed the number of children in three-teacher or larger schools to grow relatively more. These schools accommodated almost 86% of the pupils at the end of the period against 84% at the beginning. During the period under review, 98 new school buildings were erected, another 98 school buildings were extended and improvements and renovations were effected to 200 schools. The whole construction programme resulted in the erection of 547 teaching and 67 special rooms. Realized development expenditure on public elementary education (including special schools) totalled £1.3 mln. as against the Plan allocation of £1.0 mln.

The Government continued its policy of subsidising the Armenian elementary schools. There were four such schools in the main towns with 187 children and 23 teachers during the school year 1971/72.

Eight-grade elementary schools continued to offer free post-elementary education for a further two years to children who for various reasons were unable or did not wish to follow secondary education. During the period 1967–1971 some of these schools extended their courses by one extra year. In 1971/72 there were 559 children enrolled in 9 eight-grade schools served by 41 teachers.

Finally, the facilities for the physically and mentally handicapped or retarded children were improved and 6 new schools were opened for trainable children, the intake having increased from 48 to over 175 children by the end of the period. At the same time special classes were established within existing schools for other types of educationally retarded or socially maladjusted children. Over the same period, a new school for the Deaf and one for trainable children were built, while the existing school for the Blind was expanded.

Private Elementary Education : Private elementary education serves a very small percentage of children and is mainly provided by intercommunal schools, with a foreign language as the main language of instruction. These schools are subsidised by the Government on the basis of the number of Cypriot pupils enrolled. In 1971/72 there were six such schools with 866 pupils and 55 teachers.

(iii) SECONDARY EDUCATION

One of the most significant developments during the period under review in the field of secondary education was the impressive expansion of the number of pupils enrolled. Table 4 provides a summary of the main quantitative changes.

Despite the considerable increase in the number of pupils following secondary education, the pupil/teacher ratio was reduced from 23.7 to 21.0 as a result of a 52% increase in the number of teachers compared to only a 34% increase in the number of pupils. An intensive school building investment programme has enabled the provision of better accommodation and has allowed the reduction of the pupil/class group ratio from an average of 35.3 pupils per class to 32.7.

Secondary Education Schools, Pupils and Teachers, 1966/67 and 1971/72

TABLE 4

	1966/67				1971/72			
	Schools	Pupils	Teachers	Pupil/ Teacher Ratio	Schools	Pupils	Teachers	Pupil/ Teacher Ratio
Secondary Schools ..	**64**	**33,511**	**1,413**	**23.7**	**86**	**44,979**	**2,143**	**21.0**
Public Secondary General (classical, science and commercial) ..	33	20,850	847	24.6	41	27,250	1,189	22.9
Public Technical Vocational ..	6	2,761	157	17.6	7	3,836	275	13.9
Public Commercial Vocational ..	3	836	36	23.2	3	804	49	16.4
Public Agricultural School ..	1	212	9	23.6	1	211	16	13.2
Private, Greek ..	12	4,779	178	26.8	25	8,701	394	22.1
Private, Intercommunal ..	9	4,073	186	21.9	9	4,177	220	19.0
Public Evening Gymnasium ..	—	—	—	—	**1**	**46**	**4**	**11.5**

Source : Statistics of Education in Cyprus.

Furthermore, as will be seen from Table 5, the policy of encouraging pupils to follow science and technical subjects in the second cycle of secondary education has resulted in a significant shift towards these specializations.

Second Cycle Pupils (Secondary Education) by Specialization(¹)

TABLE 5

Specializations	1966/67		1971/72	
	No.	%	No.	%
Classical	5,680	41.3	4,839	27.2
Commercial	4,103	29.8	5,748	32.4
Commercial Vocational	276	2.0	389	2.2
General	724	5.3	1,387	7.8
Science	1,639	11.9	2,782	15.6
Technical Vocational	1,239	9.0	2,537	14.3
Agricultural	95	0.7	81	0.5
Total	**13,756**	**100.0**	**17,763**	**100.0**

Source : Statistics of Education in Cyprus.

(¹) Both public and private secondary schools.

Public Secondary Education : Emphasis was again laid on qualitative improvements and at the same time on the creation of the necessary conditions for the gradual introduction of free education up to the 15th year of age. Yet, one of the most important developments during the period under review was the impressive expansion in the number of pupils enrolled.

The number of all types of public schools increased from 43 in 1966/67 to 52 in 1971/72, the total number of pupils from 24,659 to 32,101 and the number of teachers from 1,049 to 1,529. In addition, an evening gymnasium was established in 1970/71 to enable working people to complete their unfinished secondary education. An ambitious programme was undertaken to provide new up-to-date school buildings. Eleven new secondary school buildings were erected and major extensions were carried out to existing buildings with the result that 238 new classrooms and 119 specialized classrooms were added by the end of the Plan period. Consequently, the number of pupils per classroom was reduced substantially, a development which has contributed to the qualitative improvement of educational services in general.

(*a*) *Secondary General :* The number of public secondary general education schools increased from 33 in 1966/67 to 41 in 1971/72. A new type of school, the three-grade gymnasium, was introduced in the rural and the outskirts of urban areas with a view to raising the educational standards in rural areas and decongesting urban schools. At the same time, the first cycle of public secondary schools was turned into a self-contained cycle with uniform examinations at the end of the three years for all children irrespective of the type of school they attended. Also, woodworking and metalworking subjects became part of general education in the first cycle with a view to enabling students to develop their aptitudes and skills and to encourage more pupils to follow technical specializations in the second cycle. By the end of the Plan period 19 schools were suitably equipped and offered tuition on these subjects.

Moreover, the Plan gave emphasis on the promotion of science specializations in the upper three-year cycle. This emphasis was manifested in the provision of financial assistance to School Committees in the form of loans and subsidies for the erection and equipment of physics and chemistry laboratories.

Other measures taken towards improving the standard of general education included the creation and filling of a number of posts of inspectors, the use of television for the teaching of geography, English language and biology and the qualitative improvement of teachers through awards of scholarships for training abroad, in-service training and special conferences and seminars. Development expenditures for public secondary general education, in the form of direct expenditure, subsidies and long-term loans during the Second Plan period surpassed the target allocation of £750,000 and reached the level of £783,700.

(*b*) *Technical/Vocational (including Commercial/Vocational and Agricultural Education) :* The overall growth in the number of pupils attending these schools has been slower than that of secondary general education, mainly on account of the diminishing interest in the commercial/vocational and agricultural specializations. In the case of technical/vocational education alone the growth has been faster than in all other types of education, though the rate of growth began to decline in the latter half of the period.

A new technical/vocational school was established at Ktima bringing the total number of such schools to eleven. On the other hand, existing schools were expanded, modernized and supplied with equipment to meet the specialized demands in laboratory and workshop training.

The shortage of specialized instructors and technologists obtaining at the beginning of the Second Plan period was overcome. Thus, not only an adequate number of teachers was made available to staff the schools and allow a better pupil/teacher ratio, but more qualified teachers were employed. The establishment of the Higher Technical Institute is expected to solve on a permanent basis the problems faced in this field in the past.

Technical/vocational education is more heavily subsidised by the Government. It contributes more than 90% of the total cost, which in the 1970/71 school year amounted to £447,200. The development expenditure target of £210,000 was surpassed and actual expenditures amounted to £258,500 during the Second Plan period.

Private Secondary Education (including Intercommunal Schools): In most cases, Greek private secondary schools offer similar tuition as that offered by public schools, but a small number of them specialize in such fields of study as university entrance examinations. The private secondary schools are currently providing education of uneven standard. Its share in total enrolments of secondary education pupils rose from 14.3% in 1966/67 to 19.3% by 1971/72. When the share of intercommunal schools (9.3%) is taken into account, we find that more than a quarter of pupils in secondary education is now educated in schools outside the public educational system.

Intercommunal secondary schools offer education on similar lines as those of the public and private Greek schools but the main language of instruction is a foreign language, with Greek as a compulsory subject for all Greek Cypriot citizens, who form the bulk of their student body (over 80%). A new law, the Private Education Law, was enacted in 1971 providing for the regulation, inspection and supervision of private schools. The main objective of the Law is the establishment of minimum standards.

(iv) POST-SECONDARY AND OTHER EDUCATION

The needs of Cyprus in university education are met from the supply of Cypriot graduates from universities abroad. During the Second Plan period, efforts were made to influence the type of courses followed through the organization of vocational guidance and counselling services and the centralization of control on the scholarships offered by various foreign Governments and international organizations. For the first time, the Government established its own State Scholarship Scheme as from the academic year 1972/73. The Scheme is designed to assist needy and able Cypriot students wishing to study abroad in priority fields. Even before this, the Government run a parallel programme of scholarships and training courses offered to Cyprus by foreign governments and international organizations. The programme also provided complementary financing to Government officers awarded scholarships or taking short courses abroad or attending seminars, etc. The number of Cypriot students abroad increased impressively during the period under review. The total number rose from 6,382 students in 1966/67 to around 11,450 (including Turkish Cypriots) students during the 1970/71 academic year.

At a lower level, Cyprus offers post-secondary education in a variety of fields. The Ministry of Education runs the Paedagogical Academy which trains elementary school teachers. The effort here has been to raise the quality of entrants as well as the standard of teaching. For this reason, the duration of the course was lengthened from two to three years and a model elementary teaching school was established within the compound of the Academy for the practical training of would-be teachers and for experimentation in new teaching methods.

Courses at post-secondary level are also offered by the Higher Technical Institute, which trains technician-engineers for industry as well as instructors for technical schools, the Hotel and Catering Institute, the Forestry College, the Nursing Schools, the Cyprus Productivity Centre, etc., all of which underwent substantial changes and expansion or were established for the first time during the Plan period (Table 6).

Schools, Pupils and Teachers of Post-secondary and Other Education, 1966/67 and 1971/72

TABLE 6

	1966/67			1971/72		
	Schools	Pupils	Trachers	Schools	Pupils	Teachers
Post-secondary and Other Education	**7**	**463**	**53**	**10**	**1,111**	**107**
Paedagogical Academy ..	1	101	17	1	296	20
Forestry College	1	22	4	1	25	4
Hotel and Catering Institute	—	—	—	1	45	18
Higher Technical Institute	—	—	—	1	199	27
Private Post-secondary Schools	1	45	2	2	183	6
Central Hotel Training ..	1	109	17	1	62	13
Schools for Nurses and Midwives	2	153	8	2	245	9
Seminary	1	33	5	1	56	10

Source : Statistics of Education in Cyprus.

2.2.3 Cultural Development

A total of £380,000 was allocated in the Second Plan for projects in the domain of cultural activities including a mobile lending library, a State Theatre and Orchestra, a State Gallery and Library and other minor schemes. Despite the modest size of realized expenditure, due mainly to delays in the implementation of a few major projects, the record of cultural development activities has been notable. A mobile lending library was inaugurated in 1969 serving successfully rural areas with no library facilities of their own. A State Theatre gave its first public performance at the end of 1971. A study was also undertaken on the feasibility of organizing a State Orchestra. The erection of a State Gallery and Library is another major project for which detailed studies were carried out and final plans for its implementation are nearing completion. The encouragement of arts and literature received particular attention and financial assistance was provided for participation in various international exhibitions abroad. Total development expenditure on cultural projects during the period of the Second Plan amounted to £102,300 most of which (about £70,000) was utilized for the promotion of arts.

2.2.4 Development Expenditures, 1967–1971

A summary of the planned and realized development expenditures for the 1967–1971 period by level of education is given in Table 7.

Development Expenditures on Education and Cultural Development, 1967–1971
(000's)

TABLE 7

	Plan Allocation([1])	Realized Development Expenditures		
		Direct	Loans	Total
1. Elementary Education (incl. Special Schools)	1,000.0	458.2	800.3	1,258.5
2. Secondary Education, General	750.0	242.3	541.4	783.7
3. Technical/Vocational Education	210.0	236.6	21.9	258.5
4. Cultural Development	380.0	102.3	—	102.3
5. Other	60.0	31.4	46.4	77.8
Total	**2,400.0**	**1,070.8**	**1,410.0**	**2,480.8**

Source : Second Plan, Financial Reports and Loan Commissioners' Reports.

2.2.5 Cost of Public Education

The total cost of public elementary education is estimated to have increased from £2.2 mln. in 1966/67 to £3.4 mln. in 1970/71, while the cost per pupil rose to £50.2 in 1970/71 from £30.6 in 1966/67. It is also estimated that Government was shouldering directly about 75% of the total cost in both school years and in addition provided loan facilities to School Committees. On the other hand, the cost of public secondary education (including commercial/vocational) has been rising faster than the cost of elementary education. It grew from £1.3 mln. in 1966/67 to £2.4 mln. by 1970/71. At the same time, the Government's direct share in this expenditure increased from 43% to 56.3%, respectively, while parents' contributions were reduced from 44.5% to 32.3% of the total cost. During the same period, the cost per pupil increased from £66.4 to £93.6. Technical/vocational education is the most expensive type of secondary education. The annual cost per pupil stood at £128.3 in 1970/71 compared with £90.4 in 1966/67. It is also more heavily subsidised by the Government which contributes more than 90% of the total cost.

3. Evaluation of Present-Day Educational Services

During the 1960's, education in general has made impressive leaps forward. Elementary education became universal and compulsory. Almost half of the existing school buildings were constructed during this period either to replace old buildings or to establish new schools. Pre-elementary education from a state of non-existence expanded to serve more than 4,000 children. Enrolments in secondary schools, both public and private, almost doubled, while students attending post-secondary and university education are estimated to have increased three times. However, this record should not be taken to mean that there is no room for further progress or that there are no problems.

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[1] The targets of development expenditures were revised to take into account: (*a*) the transfer of £600,000 earmarked for the construction of a State Sports Stadium from the Ministry of Education to the Cyprus Athletics Organization ; and (*b*) the re-allocation of £450,000 from Technical to Secondary General Education for the erection of three-year cycle Gymnasia in rural areas and the introduction of wood and metal working subjects.

Pre-elementary education is still restricted to a mere 10% of the corresponding age-groups and the schools are located mainly in urban areas. Elementary education does not provide adequate special facilities for children suffering from various mental and physical handicaps, some of whom are left out of the educational system altogether, while children with a lesser degree of disability in need of special teaching methods receive their tuition in ordinary classroom conditions with the rest of the children, except in a few urban areas where there are special classes within the schools. Congestion still characterizes certain urban areas, while ancillary facilities are still lacking in a number of rural schools.

Shortcomings also exist in the case of both general and technical education. One such deficiency is the shortage of accommodation in certain areas, which may be accentuated when free secondary education in the first cycle is introduced and the second cycle expands accordingly. Satisfaction of the infrastructural needs of free secondary education should command high priority in the early years of the Third Plan, while in the latter half the satisfaction of needs in the second cycle will rank higher. Simultaneously, every effort should be made to eliminate the existing congestion, especially in the urban areas, particularly in the first cycle.

Although some progress has been made towards a better distribution of pupils in various specializations in the second cycle, manpower needs have not been met adequately. The relatively high incidence of unemployment among graduates of classical and commercial streams of secondary education calls for remedial action. The proportion of pupils following technical education is still low and a large part of expensive facilities are used for teaching first-cycle pupils. The training of teachers is another area to which attention should be directed. There is always room for teaching methods, textbooks, curricula, syllabi and timetables to be updated and further improved. Private education at the secondary level needs to be more effectively supervised so as to ensure a further raising of standards.

Finally, the tremendous increase of university students abroad will eventually create problems with regard to the placing of young scientists in gainful employment. There are already more than 200 university graduates registered with the employment exchanges.

4. The Third Five-Year Plan

4.1 Long-term Objectives and Prospects

A basic long-term objective in the educational field is the further democratization of education which will enhance and equalize educational opportunities for all citizens. This will be accompanied by a continuous effort to raise quality and standards and to create a flexible system which will satisfy the requirements of a rapidly changing society in a technological era. A further long-term objective will be the raising of the cultural level of the country. The prospects appear promising. With continuing economic and social development, the demand for all types and levels of education will go on increasing at a fast pace, particularly for pre-elementary and secondary education. Enrolments in elementary schools, however, are likely to continue to decline because of demographic factors.

4.1.1 Objectives of the Third Plan

The main objectives of the Third Plan are :

(*a*) To encourage and promote the expansion of pre-elementary education facilities.

(*b*) To provide additional facilities to meet the needs of problem children in elementary schools, to eliminate overcrowding in elementary schools in urban areas and to minimize the inequality of teaching in all regions.

(*c*) To promote further qualitative improvement of secondary education and to enlarge the capacity of secondary schools to absorb the increasing number of pupils anticipated following the introduction of free education in the first cycle.

(*d*) To promote educational research and the standard of training of teaching staff through the establishment of a Paedagogical Institute.

(*e*) To encourage a more rational distribution of pupils among the different specializations of secondary education in line with the needs of the economy.

(*f*) To promote further cultural activities and the establishment of new institutions.

First priority will be accorded to the introduction of free secondary education up to the age of fifteen and the expansion of technical education.

4.1.2 Projects and Policy Measures to Achieve the Objectives of the Plan

(i) PRE-ELEMENTARY EDUCATION

Current trends indicate that private initiative will continue to expand its activities in this field, although it is not anticipated that it will be able to cover more than 15–20% of the children. Private initiative, however, manifests itself in urban areas and is rather expensive. Considering the importance of pre-elementary education as the instrument through which children are exposed to education for the first time and through which more mothers are enabled to seek gainful employment, it will be an aim of policy in the Third Plan to expand public pre-elementary education facilities selectively and especially in areas where private initiative is now dormant. The establishment of a combined institution capable of offering both day care services and pre-elementary education appears to be a feasible solution and will be studied as a possible basis for the future development of public or municipal pre-elementary education.

(ii) ELEMENTARY EDUCATION

The basic requirements in physical facilities have already been largely provided through the intensive construction programme undertaken during the Second Plan period. Projections indicate that enrolments in elementary schools will continue to decline appreciably during the Third Plan to reach the level of about 62,000 pupils by the school year 1976/77. This will be accompanied by further shifts from rural to urban areas (Table 8).

Number of Pupils in Public and Private Elementary Schools, 1971/72 and 1976/77

TABLE 8

	Public			Public Armenian	Private Inter-communal	Total
	Urban	Rural	Total			
1971/72 ..	23,090	41,325	64,415	187	866	65,468
1976/77 ..	23,800	37,200	61,000	150	750	61,900

Source : Planning Bureau.

In view of the anticipated decline in the number of pupils and the continuing shift from rural to urban areas the main objective of the Plan in the field of elementary education will be to effect further qualitative improvements. These will include the building of new schools and the expansion of others in urban and large rural centres, where the pupil population is expected to be increasing and where some degree of overcrowding is currently noticeable ; the supply of auxiliary facilities for special teaching rooms, the provision of outdoor facilities ; the supply of additional special facilities necessary for teaching educationally backward, mentally disturbed and socially maladjusted children at an early stage.

The Third Plan also envisages a number of other supporting measures and policies all aiming at the same objective. One such measure is the further raising of the standard of teaching through in-service training of teachers to be undertaken by the proposed Paedagogical Institute. Another measure, which will help especially the rural areas, will be the revision of minimum pupil population requirements for the appointment of teachers. Already the pupil/teacher ratio has been reduced below 30, whereas the minimum requirement at present is 40 pupils. A third measure will be the continuation of the policy to create larger centralized schools. Finally, increased teaching aids per classroom will be provided, and curricula, syllabi, teaching methods will be kept under constant review.

During the Third Plan, the institution of eight-grade elementary schools will be re-evaluated in the light of the introduction of free secondary education.

At present, only about one-third of trainable children receive full-time schooling. The aim will be to expand school capacity in priority areas. At the same time, the facilities at the Blind and the Deaf schools will continue to be improved.

Armenian and private intercommunal elementary schools are expected to continue operating within the limits imposed by the demand for their services and they are not anticipated to enrol more than 1.5% of the children in the relevant age group.

(iii) SECONDARY EDUCATION

Projections of secondary school population show that the past expansion of enrolments will continue during the Third Plan period, though at a somewhat slower pace ; enrolments in public secondary schools will grow appreciably while those in private schools are expected to decline (Table 9). More elementary school leavers will be enrolling in secondary schools and by 1976/77 their proportion is estimated to be close to 90% of the total school leavers compared with about 85% in the 1971/72 school year. Moreover, it is anticipated that comparatively more pupils (about 70% of those enrolling in the first class) will stay on and complete the six-year cycle of secondary education by the end of the period as opposed to the present figure of 65%.

Number of Pupils in Public and Private Secondary Schools, 1971/72 and 1976/77

TABLE 9

	1971/72			1976/77		
	1st Cycle	2nd Cycle	Total	1st Cycle	2nd Cycle	Total
1. Public Secondary Schools	20,719	11,382	32,101	25,200	18,500	43,700
2. Private Secondary Schools([1])	6,497	6,381	12,878	3,800	5,200	9,000
Total	**27,216**	**17,763**	**44,979**	**29,000**	**23,700**	**52,700**

Source : Statistics of Education in Cyprus and Planning Bureau.

Because of the anticipated growth in the number of pupils, the already existing shortages of accommodation and the sizeable contribution this level of education makes to the total supply of skilled manpower, secondary education will receive high priority during the Third Plan period. An important development in this respect will be the reorganization and streamlining of the vocational guidance services, the supply of information to parents and children to enable them to take the right decision regarding future career prospects and the introduction of incentives to enable science and particularly technical schools to attract an increasing number of pupils.

Public Secondary Education : The Third Plan will give a high priority to the adaptation into the existing educational set up of the new scheme for the gradual introduction of free secondary education for children attending the first three classes. The efforts will concentrate on the maintenance and improvement of the standard of secondary education. Current projections show that pupils in the first cycle will grow by about 20% or by another 4,500 pupils. A heavy building programme for the first cycle of secondary education has been drawn up to relieve overcrowding and provide the additional accommodation needed for the new entrants, as well as a programme for the supply of the equipment and teaching facilities required for special subjects like wood and metal work and physics.

The introduction of free education in the first cycle of secondary schooling will eventually result in a quantitative expansion in the second cycle. Trend projections show that during the Third Plan period the

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([1]) Including intercommunal schools.

second cycle of public secondary schools will expand by more than 60% or by about 7,200 pupils, which is comparatively the highest rate of growth to be experienced at all levels of education. This expansion will necessitate the erection and equipping of additional school buildings and the provision of other facilities, such as physics, chemistry and biology laboratories, to permit increased emphasis to be laid on science subjects.

Manpower demand projections dictate that the share of technical education in total enrolments should increase considerably and that the recently observed falling share of technical/vocational education in total enrolments in the second cycle should be reversed. Thus, the Third Plan envisages the abolition of the commercial/vocational schools, in an effort to attract pupils to technical/vocational education proper. Furthermore, pupils will be encouraged to follow technical education. A programme is also expected to be drawn up for the partial removal of the first cycle from technical schools. The main target will be to increase the share of technical education in total enrolments at this level to a minimum of 15% by at least doubling the present capacity from 1,500 to 3,000 pupils by 1976/77.

The absence of systematic training in paedagogics has been a defect which the Third Plan will try to remedy. Moreover, the need for up-to-date teaching methods at all levels of education has been identified as a priority to be tackled urgently. Future developments will require education to be more dynamic and flexible enough to incorporate new elements in the educational system. The deficiency in paedagogical training will be rectified through the establishment of a Paedagogical Institute. The Institute will form the basis for the qualitative improvement of education in general. It will undertake research, collecting and disseminating information activities and will provide training to all teachers.

Private Secondary Education: Private education has been recognized as complementing public secondary education and this Plan takes into account the expected developments in the private sector. The type of education and standards of teaching will be supervised in accordance with the provisions of the Private Education Law. Private schools will be encouraged to offer more technical/vocational education and may eventually take over entirely the commercial/vocational type of education. With the introduction of free education, enrolments in private schools are expected to decline. These schools will continue, however, to offer valuable services and to meet part of the country's needs in trained manpower.

(iv) POST-SECONDARY EDUCATION

Because of the absence of a university it is expected that a large number of young persons estimated at about 2,000 will be leaving the country annually to pursue further studies abroad. In the meantime, the Government through its own scholarship programme will assist needy young people to follow university studies in priority fields. In parallel, the scholarship scheme in respect of training courses offered to Cyprus from multilateral and bilateral sources will be continued.

At the same time, the existing third level educational institutions will continue to make their valuable contribution to the educational and economic development of the Island.

(v) CULTURAL DEVELOPMENT

During the Third Plan period priority will be given to the continuation of the cultural activities already in operation, e.g. State Theatre, mobile lending library, the promotion of arts and literature, and the implementation of new projects for which detailed studies and plans have been prepared during the Second Plan period. Planned new projects and activities include the erection of a State Gallery and Library, the possible establishment of a State Orchestra, the organization of an annual autumn arts festival, the development of urban libraries, etc.

4.1.3 Development Expenditures, 1972–1976

A summary of the development expenditures earmarked for the implementation of projects and programmes in the educational and cultural field during the Third Plan period is given in Table 10.

Development Expenditures on Education and Cultural Development, 1972–1976

TABLE 10

	£000's
1. Pre-elementary Education	100
2. Elementary Education	1,250
3. Special Schools	150
4. Secondary Education (General, Technical)	3,400
5. Paedagogical Institute	200
6. State Scholarship Scheme and Training of Staff Locally and Abroad	260
7. Cultural Development	850
8. Other (including Personal Emoluments)	50
Total	**6,260**

Source : Planning Bureau.

CHAPTER 20

LABOUR—POLICIES AND PROGRAMMES

1. Introduction

Human resources being a vital factor in growth generation, it can be asserted that expenditure on education, training and labour standards constitutes a long-term investment in the social and economic progress of a country. In this belief Government aimed, during the Second Five-Year Plan, at the best possible development and utilization of the available manpower resources, and at the provision and protection of satisfactory and economically feasible labour standards.

2. Developments during the Second Plan

While the objectives of the First Plan were more general in nature and aimed primarily towards the diagnosis and removal of the major bottlenecks to the revival of economic activity, the objectives of the Second Plan were more specific and geared towards bringing structural changes in the supply of manpower resources and the improvement of conditions of work consistent with the long-term needs of a dynamic economy and modern labour policies. Thus, the attainment of the overall objective of maintaining and enhancing full and more productive employment conditions was to be pursued, *inter alia*, through the expansion of the activities of the various training institutions and programmes and the establishment of new ones. On the other hand, provision was made for the protection of employees against arbitrary dismissal and the improvement of other working conditions, the preservation of industrial peace, the enhancement of health, safety at work and the welfare of workers, etc.

All these objectives were successfully pursued during the implementation stage of the Second Plan. As already seen in other Chapters, the Cyprus labour force was fully employed during the period 1967–1971. The productivity increase attained and the re-distribution of employment from lower to higher productivity sectors are indicators of the gradual attainment of the objective for ensuring more productive employment to the working population. The main instrument employed for the promotion of full and, especially, of more productive employment has been the increased emphasis placed on training and retraining of the labour force.

2.1 Training Institutions and Supply of Skills

Global statistics of employment by occupational category and the educational background of the working population are lacking for the years prior to 1971 and, therefore, it is not possible to give estimates of the "skills gap" in 1966. Despite these limitations, it may be said that the period of the Second Plan witnessed a remarkable effort towards increasing the supply of skills in the economy and raising the standards of training of labour and management personnel through the expansion and establishment of training institutions and the expansion and diversification of the training courses offered. The Government's contribution in this effort has been decisive.

Table 1 shows the supply of skills during the period of the Second Plan, which went to fill existing or new gaps created as a result of the fast growth experienced in the key economic sectors of the economy, such as the manufacturing, the construction and the tourist sectors.

It will be seen that during the period 1967–1971 a total of 6,030 persons received training under various schemes and in institutions operated by the Ministry of Labour and Social Insurance, out of which 88% were already employed ; the remaining attended *ab initio* training courses. The number excludes a total of 632 and 1,770 persons who graduated from technical and vocational schools, respectively, during the same period. For further details on technical and vocational schools reference is invited to the Chapter on Education.

TABLE 1

Output of Government Training Institutions, 1967–1971

Training Institutions	No. of persons trained		
	New Labour	Labour already employed	Total
1. Cyprus Productivity Centre.			
(*a*) Management training	—	2,581	2,581
(*b*) Vocational training	—	2,240	2,240
(*c*) Accelerated training (building trades)	141	—	141
2. Hotel and Catering Institute (Middle-level training courses)	55	—	55
3. Central Hotel Training School.			
3.1 Ordinary courses	141	—	141
3.2 Accelerated training	116	—	116
4. Higher Technical Institute.			
4.1 Full-time courses	66	—	66
4.2 Special courses for industry	—	11	11
5. Apprenticeship Training Scheme	—	471	471
6. Upgrading and Retraining Scheme (Dhekelia)	170	—	170
7. Centre for the Training of the Disabled	38	—	38
Total	**727**	**5,303**	**6,030**

Source : Planning Bureau.

Perhaps the most significant feature of the efforts to develop manpower resources has been the establishment by the Government of a number of new educational and training institutions and programmes. In 1967 an upgrading and retraining scheme at Dhekelia was introduced as a joint project between the British and the Cyprus Governments for the retraining of redundant employees of the British Bases in skills required by the economy. The scheme has proved successful and the Dhekelia premises and facilities were subsequently used for the retraining of high school graduates. The training provided was concentrated on such fields or skills as vehicles mechanics, sheet metal, welding, electricians, precision instruments and metal smiths. In 1968 the Government established jointly with the U.N.D.P. the Higher Technical Institute, the main purpose of which was to supply high-level technicians in civil electrical and mechanical engineering, as well as technical teachers and instructors for the needs of technical education. The main courses and fields of activity of the Institute were: (*a*) three-year full-time courses in the above specializations, (*b*) other part-time evening courses in priority fields, and (*c*) consultancy services to various industries. In the same year, the Government, in co-operation with the I.L.O., established the Centre for the Rehabilitation of the Disabled, the basic objectives of which were the training of the disabled in productive trades and their rehabilitation and placement in industry or as home workers. Lastly, in 1969 the Hotel and Catering Institute project was launched jointly by the Cyprus Government and the U.N.D.P. to provide middle and higher level training in hotel and catering trades, advisory and consultancy services to the tourist industry and to carry out research and provide information and documentation services. Ever since, the Institute has been functioning jointly with the existing Central Hotel Training School. Its aim is to cover gradually the whole range of hotel and catering training needs ranging from basic to middle and higher levels of training.

In the meantime, other existing training institutions and schemes continued to function in their respective fields of activity. The Cyprus Productivity Centre, another U.N.–Cyprus Government project, operating since 1963, provided training through upgrading courses to both management and skilled workers, *ab initio* accelerated training in the building trades and other management development services through consultancy, research and information. The courses offered were based on fact-finding surveys on the training needs and were either specifically designed for certain priority industries or more generally for personnel working in more than one branch of economic activity.

During the period under review the Apprenticeship Training Scheme developed into an Island-wide institution and training was provided in the metal, electrical, building, furniture and automotive trades. The objectives of the Scheme are to increase the number of skilled workers available to industry through improving the level of theoretical and practical knowledge of young industry-based workers. The bulk of the financial burden for operating the Scheme is borne by the Government, but employers, by agreement, undertake to pay the trainees their wages during their absence from work whilst receiving instruction at the Technical Schools.

2.2 Labour Standards

As stated earlier, another objective of the Second Plan was to improve working conditions in general, as an additional means through which workers' participation in the rising standard of living would be enhanced and good industrial relations would be maintained. In pursuance of these objectives, the Government introduced in 1967 two pieces of legislation, the Termination of Employment Law and the Annual Holidays with Pay Law, and has actively pursued policies and measures designed to enhance workers' safety, health and welfare at work, as well as the maintenance of industrial peace.

(i) SECURITY OF EMPLOYMENT

The main purpose of the Termination of Employment Law is to protect employees against arbitrary dismissal, to cushion the effects of redundancy and to provide a minimum period of notice in cases of dismissal and redundancy. Under the Law, which came into operation in 1968, a

Redundancy Fund was established into which employers pay contributions at the rate of 0.5% of their payroll. The aim is to spread the risk of redundancy over all the employers in the Island. The income of the Fund during the period 1967–1971 amounted to £905,161, out of which a total of £360,716 was paid out in redundancy payments and management and administration expenses. There were 3,739 claims for redundancy benefits, out of which 2,446 claims were allowed.

The provision in the Law concerning the payment of compensation by employers to employees for unjustified dismissals has also been functioning satisfactorily. Disputes or ancillary matters arising out of the application of the Law are decided upon by the Arbitration Tribunal established under the Annual Holidays with Pay Law which was enacted in the same year.

(ii) WORKERS' HOLIDAYS

Under the Annual Holidays with Pay Law employers contribute to a Central Fund at the rate of 3% of their weekly wage bill, which covers a minimum leave of nine working days in a year. To qualify under the scheme an employee must have worked at least 25 weeks during a year. By 1971, a total of 20,152 employers employing 144,261 employees were registered under the Scheme. Out of this number 17,400 employers employing 97,972 persons were actively participating in the Scheme. The remaining employers were exempted as offering better holiday conditions than those provided by the Scheme. Over the period of the Second Plan the income of the Fund amounted to £2,164,123 out of which £1,685,035 were paid out in annual holiday payments and management and administrative expenses.

(iii) WORKERS' SAFETY, HEALTH AND WELFARE

Closely connected with the aim of developing manpower resources and improving the working conditions of labour is the question of controlling and preventing the incidence of accidents and of ensuring that workers carry out their work in a healthy environment. During the period under review, the Inspection of Factories Section of the Ministry of Labour and Social Insurance continued the policy of promoting and maintaining the best possible conditions of safety, health and welfare at the place of work. The Factory Inspectorate is responsible for the inspection of all factory premises and the enforcement of the Factories Law. The Inspection of mines and quarries comes under the jurisdiction of the Mines Department of the Ministry of Commerce and Industry, but the two Services co-operate closely.

The objective of promoting safety, health and welfare at the place of work was pursued through (*a*) the continuous use of the services of the tripartite Pancyprian Safety Council which advises on the introduction of legislation and the initiation of other measures designed to influence employers and workers to improve safety conditions, (*b*) the rendering of advisory service and technical information during inspection visits on safe methods of production operations and conditions at work, and (*c*) regular visits to factories for inspection and enforcement of the Factories Law.

Statistical information shows that the activities of the factory inspection service expanded considerably between the years 1966 and 1971. The number of inspections carried out in establishments falling under the Law has almost doubled. Indicators show also satisfactory results with regard to the incidence of accidents during this period. The total number of accidents recorded in 1971 totalled 1,166 compared with 1,252 in 1966.

(iv) INDUSTRIAL PEACE

Industrial peace is particularly important at the present stage of Cyprus' economic development because in recent years the economy has been operating under full employment conditions and the Government is committed to the goal of attaining a high rate of economic growth. Prerequisites to the maintenance of conditions of industrial peace are the existence of effective machinery and institutions for collective bargaining, an adequate State conciliation service, which commands the support of both employers and employees, and well organized employers' and workers' organizations.

Since Government is naturally concerned at industrial unrest, which is not conducive to uninterrupted and orderly growth, it has in recent years tried to promote industrial peace and sound industrial relations by the establishment of a tripartite consultative committee on incomes and prices, the improvement, qualitatively and quantitatively, of the conciliation service of the Ministry of Labour and Social Insurance and the amelioration of existing voluntary procedures for collective bargaining and the settlement of labour disputes.

Despite these efforts, industrial relations were not as peaceful as during the period 1964–1966. Man-days lost due to work stoppages rose from 2,708 in 1966 to 23,454 in 1971 and relations between employers and employees were at times more strained than they used to be. Some of the reasons for these developments are the state of full employment, the changing pattern of trade union demands, the increasing solidarity of the two sides of industry, and the inadequacy of existing procedures for the settlement of labour disputes in the light of changing environment.

2.3 Development Expenditures, 1967–1971

The increased emphasis given by Government on manpower resource development in general is reflected in the expanded level of realized development expenditures compared with those earmarked in the Second Plan. Table 2 compares the two sets of development expenditures.

Development Expenditures on Training Institutions and Programmes, 1967–1971

TABLE 2

	Planned £000's	Actual £000's
1. Hotel and Catering Institute and Central Hotel School	430.0	377.9
2. Higher Technical Institute	200.0	358.1
3. Other	100.0	145.0
3.1 General Services	—	32.8
3.2 Apprenticeship Training Scheme	—	22.1(1)
3.3 Upgrading and Retraining Scheme	—	36.4
3.4 Accelerated Training Schemes : Building Industry and Other Trades	—	12.2
3.5 Scheme for the Rehabilitation of the Disabled	—	41.5
4. Cyprus Productivity Centre (incl. Industrial Training Programme)	250.0	202.9
Total	**980.0**	**1,083.9**

Source : Planning Bureau.

(1) This amount does not include expenditures for the operation of the Scheme incurred by the Technical Schools.

The total amount spent on the implementation of the new schemes outlined above and the expansion and diversification of existing training institutions and other schemes amounted to a total of nearly £1.1 mln. for the whole period 1967–1971. This amount excludes expenditures incurred in connection with the expansion of the industrial relation services, and the employment and factory inspection service, which have been met from funds provided out of the Ordinary Budget. The contribution of the private sector to the financing of these programmes has been negligible.

3. The Third Five-Year Plan, 1972–1976

3.1 Objectives of the Third Plan

The objectives of the Third Plan will be in line with the basic overall objective of bringing about a healthy restructuring of the economy and the creation of conditions which will permit self-sustained growth. Basically, the objectives of the labour policy will remain the same as during the Second Plan period but with certain adjustments necessitated by the changing needs and circumstances of the industry, the people and the economy at large.

Thus the objectives of the Third Plan, which should be read together with the objectives and targets of the main economic variables outlined in the Chapter on Population, Manpower and Employment, are :—

(*a*) To expand the supply of skills in order to minimize the imbalances which may appear in the occupational structure and to improve the methods and the content of training programmes to conform to the Cyprus conditions, present and anticipated.

(*b*) To take measures to introduce standards, tests and certificates of proficiency for the various categories of skilled labour.

(*c*) To co-ordinate training programmes on an Island-wide basis and define clearly the areas of responsibility of the public and private sectors of the economy, with a view to increasing efficiency and lowering costs per trainee.

(*d*) To improve the machinery and institutions of collective bargaining for the prevention and settlement of industrial disputes.

(*e*) To continue the effort for the improvement of labour standards.

(*f*) To introduce a more comprehensive system for the collection and processing of statistical data for planning, co-ordination and follow-up of developments in the field of manpower, skills and productivity.

(*g*) To establish a Vocational Guidance Service as an integral part of the Employment Service of the Ministry of Labour.

(*h*) To develop further the Conciliation, Amelioration and Arbitration Service of the Ministry of Labour.

3.2 Employment by Occupational Category, 1972–1976

To identify the possible " skills gap " during the period of the Third Plan and to design the right manpower training policies, it is necessary to make an educated forecast of the occupational distribution of employment during this period. Ideally, this exercise should have been extended beyond the time limits of the Third Plan. It is believed, however, that the conclusions to be derived from this limited forecasting exercise could be used for the more distant future.

The distribution of the additional labour force by occupational status which will meet the requirements of the economy during the period 1972–1976 proved to be a very difficult task because of the absence of global estimates. The data employed in the exercise include information from a Report prepared by two experts (¹) for the Ministry of Labour and Social Insurance, the Island-wide Manpower Surveys and other information provided by the Statistics and Research Department. Although the estimates prepared lack precision, still it is believed that they provide a general view of the pattern of the occupational structure desired to support the economic development effort. Table 3 provides a comparison between estimates of the occupational structure in 1976 and 1971, and the net additional demand for labour by occupational category.

Table 3 indicates that the largest demand for additional labour will be in occupations, such as craftsmen, production-process workers and other related workers and in services. The economy is expected also to require additional professional, administrative, executive and managerial personnel, as well as nearly 2,300 clerical and sales workers. With the addition of the extra labour force the pattern of the occupational structure will not alter significantly by 1976. The categories 0, 7/8 and 9 are expected to increase their share at the expense of most of the remaining occupational categories.

Employment by Occupational Category, 1971–1976

TABLE 3

ISCO Code	Occupational Status	1971 No. of persons employed	1971 % to total	1976 No. of persons to be employed	1976 % to total	1972–76 No. of additional persons to be employed	1972–76 % to total
0	Professional, Technical & Related Workers ..	14,639	6.0	16,316	6.1	1,677	7.6
1	Administrative, Executive & Managerial Workers	20,835	8.5	22,375	8.4	1,540	7.0
2	Clerical Workers ..	16,291	6.6	17,749	6.6	1,458	6.6
3	Sales Workers	11,783	4.8	12,635	4.7	852	3.9
4	Farmers, Fishermen, Hunters, Loggers and Related Workers	92,171	37.5	88,876	33.2	—3,295	—15.0
5	Miners, Quarrymen & Related Workers	912	0.4	776	0.3	—136	—0.6
6	Workers in Transport & Communication Occupations	7,570	3.1	8,145	3.0	575	2.6
7/8	Craftsmen, Production-Process and Labourers, n.e.c.	65,002	26.4	77,868	29.1	12,866	58.5
9	Service, Sport & Recreation Workers	16,497	6.7	21,960	8.6	6,463	29.4
	Total	**245,700**	**100.0**	**267,700**	**100.0**	**22,000**	**100.0**

Source : Planning Bureau.

(¹) " Manpower needs in Cyprus " by Dr. J. Kaminarides and Dr. E. Liebhafsky.

3.3 The Anticipated " Skills Gap " by Occupational Group

The additional demand for labour by occupational category presented in Table 3 was in net terms and, therefore, the additional demand for labour which will arise as a result of replacements has also to be taken into account. Thus, in the analysis which follows the demand in terms of skills or occupations is composed of the additional demand for labour resulting from the anticipated expansion of output plus the additional demand to be created from the need to replace existing workers who will retire or cease to work for other reasons. On the other hand, the supply includes new labour hands to be made available from all possible sources, e.g. different training or educational institutions, school drop-outs, etc., which could be directed to fill the vacancies to be created in the various occupations. The various supply and demand sources of labour have been re-grouped to conform, as far as possible, to the anticipated "source-use " categories. This matching of supply and demand for skills is, to a certain extent, arbitrary but it is indicative of the likely areas and occupations which will show a surplus or shortage during the Plan period. Every effort has been made to effect the necessary adjustments to the gross supply necessitated by leakages resulting from deaths or inter-institutional movements. Further, it is important to note that the results of the exercise do not attempt to establish the existing surplus or shortage in skills of the " stock " of labour employed up to the year 1971. Only the future shortages or surpluses of skills expected to result from the gross inflow and outflow of labour resources in the market during the period 1972–1976 are estimated. Table 4 gives the results of the exercise. It should be pointed out again, however, that the results are only indicative and do not purport to reflect the position with accuracy.

As it will be observed from Table 4, during the Third Plan period the economy is expected to experience a serious shortage of skills in certain occupational categories, while in other occupations surpluses are likely to arise. These imbalances may constitute a retarding factor to future growth unless they are successfully satisfied through a speedy re-orientation of manpower development policies and/or through the adoption of different factor intensities in the production process.

Group " A " in Table 4 was assumed to draw its additional supply from among graduates from universities and other institutions abroad, the Higher Technical Institute, the Paedagogical Academy, the Psychiatric School, the School of Nursing and Midwifery, the Forestry College, etc. Despite the envisaged overall surplus, it is expected that there will be minor shortages in certain cases, e.g. architects, engineers and surveyors, medical workers and technicians, managers, draughtsmen science and engineering technicians.

Group " B ", clerical and sales workers, which consists almost entirely of secondary school graduates, is likely to show a large surplus. On the other hand, a serious development during the Plan period will be the very large shortage of labour in group " C ", consisting of skilled and semi-skilled craftsmen and service workers. This shortage may develop into a serious bottleneck for accelerated industrial and tourist growth. These occupations are filled mainly from graduates of public and private technical and vocational schools and the hotel schools. Shortages under this group are anticipated in the case of tailors, cutters, furriers, carpenters, joiners, furnacemen, rollers, drawers, moulders, bricklayers, plasterers, leather cutters, lasters and sewers, spinners, weavers, knitters, dyers and related workers. Less important shortages will be experienced in almost all the remaining categories of craftsmen. In the case of service workers, the most acute shortage will be in the tourist professions. On the other hand, Group "D", which draws its supply almost entirely from elementary school graduates not entering further schooling and from secondary school drop-outs, is anticipated to show a surplus.

Gross Additional Demand and Supply of Manpower by Occupational Group 1972-1976
(No. of Persons)

TABLE 4

Occupational Group	Replacement needs	Additional needs	Total needs	Total Supply	Surplus (+) Shortage (—)
A. Professional, Technical and Administrative, Executive and Managerial Workers, etc.	1,240	3,297	4,537	5,130	+593
B. Clerical and Sales Workers	918	2,310	3,228	8,169	+4,941
C. Skilled, Semi-skilled and Service Workers	4,692	13,913	18,605	7,951	-10,654
(1) Craftsmen, skilled and semi-skilled	3,970	9,032	13,002	5,832	-7,170
(2) Service Workers ..	722	4,881	5,603	2,119	-3,484
D. Apprentices, Learners, Unskilled and Other Workers	1,300	2,480	3,780	10,400	+6,620
Residual			1,500		1,500(¹)
Total	8,150	22,000	31,650	31,650	—

Source : Planning Bureau.

An implicit assumption employed throughout the analysis is that the graduates of the various educational and training institutions will possess exactly the qualifications and skills needed for absorption in the various occupations. This is not in fact always the case ; there have been cases in the past, when even graduates of technical schools, who were in short supply, remained unemployed. This is indicative of the need for a constant review and revision of the methods and content of training to match actual requirements.

The above analysis has ignored the supply of skills provided through training on-the-job by the private sector and through experience gained in the field over time. It has not taken into account also the supply of skills emanating from upgrading or accelerated courses of workers already in employment, because this does not represent an additional flow of labour in the market. These sources of supply of skills are anticipated to fill a sizeable part of the gap which existed in the occupational structure of employment in 1971.

(¹) These persons are assumed to be utilised elsewhere and not in productive employment.

3.4 Manpower Development and Training Policies, 1972–1976

Manpower training policies and related measures usually have a long life-span and the period of five years is not long enough for such measures to yield full results. Nevertheless, it is necessary that appropriate measures should be studied and be introduced as early as possible.

Apart from the overall manpower pressures, the preceding analysis has identified problem-areas and imbalances in the additional demand and supply of labour in terms of occupational needs, which will make themselves felt during the Third Plan period. These imbalances may upset the targets of output and other objectives set in the Plan if they are not tackled effectively. The growth targets in productivity desired to be attained in the Third Plan are relatively high and could only be attained through dynamic policies for the training of labour. The envisaged manpower development and training policies will encompass the following :—

(i) ISLAND-WIDE INDUSTRIAL TRAINING PROGRAMME

So far, the major burden in the field of industrial training has fallen on Government. Its training institutions and programmes have provided both training for the additional inflow of labour as well as for labour already employed (upgrading courses). This type of training was provided at almost full Government cost. In view of the enormous task required in the field of industrial training this policy will be reviewed.

Thus, one of the basic aims of the Third Plan is to place industrial training on a more systematic basis and to integrate it into the country's overall Plan for economic and social development. All forms of industrial training, including management development, will be governed by legislation. The National Industrial Training Bill now in draft form is designed :—

(*a*) To formulate and implement a National Industrial Training Programme.

(*b*) To define clearly the areas of responsibility of the public and private sectors of the economy.

(*c*) To co-ordinate the Government sponsored training programmes.

(*d*) To improve efficiency in administering training programmes with a view to reducing the overall cost per trainee.

(*e*) To allocate more equitably the financial burden for operating industrial and vocational training schemes.

(ii) TRADE STANDARDS AND TESTING UNIT

The above objectives require simultaneously urgent action to re-define occupational, skill and professional categories. The Government is currently studying the possibility of setting up a Trade Standards and Testing Unit. This Unit will identify standards required for each occupation and for each grade on the basis of which training institutions will adjust their course curricula and training content. And this will, *inter alia*, facilitate the placement of trained persons in the right levels of responsibility.

(iii) PRIORITY FIELDS AND DIRECTIONS OF TRAINING

The schedule of priorities to which training should be directed follows generally from the findings in Table 4. These findings, which are based on the anticipated labour skill shortages, together with other criteria, such as the cost of training, productivity targets, etc. will be employed in the final formulation of specific training programmes.

In the light of the above findings and in order to avoid a serious skills gap in the future, priority should be given to the training of the new supply of labour. This policy recommendation will necessitate a re-orientation of the existing training programmes of the Government. Programmes for the training of the unemployed, national guardsmen and labour already employed but intending to be transferred to other occupations or sectors should also command equal priority.

In line with this principle, the sources of recruitment should mainly be : (*a*) the secondary school graduates ; (*b*) the primary school graduates who do not proceed for further education ; (*c*) the secondary school drop-outs ; (*d*) the unemployed ; (*e*) the would-be unemployed ; (*f*) the university graduate categories which cannot be absorbed and remain unemployed ; and (*g*) other unskilled labour already employed.

An important area, to which attention should be directed is secondary education. A closer look at the statistics of registered unemployed reveals that the graduates of secondary general and commercial schools represented in 1971 nearly 45% of the total number of persons who remained unemployed for a period of more than 3 months. This situation will be aggravated in the future. Consideration may have to be given to the possibility of influencing and if necessary restricting the annual inflow into secondary commercial and classical type of education classes in favour of technical education. Such a policy, if successful, will not only help the economy with badly needed skills, but also will save time and money for retraining.

During the period of the Third Plan, the Government will also play an active role in influencing the type and direction of training abroad, through such means as vocational counselling, its scholarship programme, the fellowships offered to Cyprus from multilateral and bilateral sources, etc.

(iv) Supply of Skills from Government Institutions

Pending the introduction of the industrial training legislation, the Government will continue to bear the major burden for the supply of skills to the economy. Government operated training institutions and courses will be expanded and diversified to fill to the extent that it may be possible the anticipated skills gap. Table 5 gives estimates of the anticipated supply of skills during the 1972–1976 period from institutions administered by the Ministry of Labour and Social Insurance.

Output of Government Training Institutions, 1972–1976

TABLE 5

	No. of Persons
Cyprus Productivity Centre	5,641
Hotel and Catering Institute	887
Higher Technical Institute	226
Apprenticeship Training Scheme	795
Upgrading and Retraining Scheme (Dhekelia)	53
Scheme for the Rehabilitation of the Disabled	200
Total	**7,802**

Source : Planning Bureau.

The above projections do not include the number of graduates from public technical and vocational schools, which is estimated to be about 3,115 persons during the period of the Plan. It also excludes the number of persons who are anticipated to receive training and education in other Government operated programmes, such as other secondary schools, the Paedagogical Academy, Police Training School, the Nursing School, the Forestry College and similar institutions. The number of all these graduates is estimated to be about 17,800 persons for the whole 1972–1976 period. Furthermore, in addition to the output of trained persons included in Table 5, additional courses in specific fields could be offered if the need arises during the Plan period.

3.5 Other Labour Policies and Measures

(i) MINIMUM WAGES

Through the usual process of collective bargaining wage and salary employees in Cyprus have long attained and surpassed the minimum subsistence wage level. A few categories, however, appear to have fallen behind the general trend, especially in the case of unorganised unskilled and other workers, and particularly female labour. These cases will be investigated with a view to taking remedial action.

(ii) WORKERS' HOLIDAYS

Experience has shown that the Annual Holidays Fund, which has been built up from contributions under the Annual Holidays with Pay Law, has at its disposal funds which have not always been utilized for the purpose for which the Fund was established. There have been cases, for example, in which workers have collected the amounts for which they are eligible but have not utilised them for holidays. The aim of the Third Plan will be to channel, as far as possible, the funds available in such a way as to fulfil the original objectives of the Law. For this purpose it is intended : (*a*) to utilize a proportion of the funds to subsidize specifically workers' vacations, and (*b*) to study the possibility of establishing holiday camps for the working population in summer resorts. Such a measure will at the same time help relieve the depression in mountain tourist resorts.

(iii) WORKERS' SAFETY, HEALTH AND WELFARE

The Third Plan period will also witness an even more active interest on the part of Government in tackling questions of health, safety and welfare of workers. The high priority accorded in the Third Plan to industrial growth and the improvement of labour working conditions in general dictate the adoption of a more systematic follow-up in the field of prevention of industrial accidents, the promotion of industrial hygiene and the maintenance of health and welfare at work. The action to be taken by Government in co-operation with employers' associations and trade unions will be on the following lines :—

(*a*) To review and consolidate if necessary the provisions of existing legislation for the prevention of industrial accidents, the maintenance of health and the improvement of hygienic conditions, primarily in the manufacturing, construction and mining sectors ;

(*b*) to examine the necessity of strengthening further the factory inspection and occupational disease prevention services, if industrial expansion warrants it ; and

(*c*) to study the possibility of establishing a health, safety and welfare centre to serve as a complement to the existing preventive services of the Government.

U.N. expert assistance will be provided in this connection.

(iv) INDUSTRIAL PEACE

Whilst Government will intensify its efforts in traditional areas, it will place, in particular, increased emphasis on its Conciliation Service so as to enable it not only to mediate in, but also to prevent, labour disputes.

Government will also consider the possibility of establishing a personnel management advisory service as an adjunct to the Industrial Relations Service of the Ministry of Labour and Social Insurance.

3.6 Development Expenditures, 1972–1976

For the implementation of the above development programme a sum of £1.54 mln. has been earmarked in the Third Plan (Table 6). These expenditures are additional to those allocated on educational and training programmes covered in other Chapters of the Plan and expenditures to be incurred out of the Ordinary Budget.

Development Expenditures on Training Institutions and Programmes, 1972–1976

TABLE 6

	£000's
1. Hotel and Catering Institute	650.0
2. Higher Technical Institute	400.0
3. Cyprus Productivity Centre	300.0
4. Other (incl. General Services, Apprenticeship Scheme, Accelerated Training Schemes, Scheme for the Rehabilitation of the Disabled, etc.)	190.0
Total	**1,540.0**

Source : Planning Bureau.

CHAPTER 21

HOUSING

1. Introduction

The role of housing in the economy is important for both economic and social reasons. Apart from its end use, the construction of dwellings as such represents the main single activity of the construction industry. In fact, during the Second Plan period investment in dwellings comprised 54.6% of fixed investment realized by the construction sector and 32.7% of total fixed investment (at constant 1966 prices). Furthermore, housing construction activities contributed a sizeable proportion to Gross Domestic Product and provided employment to a large number of people. Again, from a strictly economic point of view, the stock of dwellings contributed on the average about 8% to GDP during the period 1967–1971 through the services derived from them.

More significantly, however, housing conditions are important for social reasons. Good housing conditions have a favourable effect on the health of the population and the motivation of people to work and produce. On the other hand, housing conditions are the mirror of a society's standard of living.

2. Housing Conditions in Cyprus and Major Developments during the Period 1960–1971

Housing conditions in a country can be determined by the number of houses in relation to the number of households, the quality of houses, i.e. the facilities they provide to the inhabitants, the size in relation to the number of persons comprising the household, the type of construction materials used, etc. By analysing the stock of dwellings on the basis of these criteria one could form a general picture of the housing conditions of the country. Considerable improvement in housing conditions in Cyprus has taken place during the last decade as is borne out by the subsequent analysis.

2.1 The Housing Stock

Table 1 depicts the total housing stock, the composition of housing units by type and their distribution as between urban and rural areas in 1960.

TABLE 1

Composition and Distribution of Housing Stock, 1960

Housing Units by Type	All Cyprus	Towns	Villages	Share (%) All Cyprus	Share (%) Towns	Share (%) Villages
(a) Private Housing Units ..	**155,941**	**46,796**	**109,145**	**97.1**	**93.2**	**98.9**
(i) Conventional Dwellings	154,484	45,851	108,633	96.2	91.3	98.4
(ii) Rustic and Improvised Housing Units ..	1,452	943	509	0.9	1.9	0.5
(iii) Mobile Housing Units	5	2	3	—	—	—
(b) Collective Housing Units ..	**551**	**335**	**216**	**0.4**	**0.6**	**0.2**
(c) Housing Units not intended for Habitation	**3,427**	**2,856**	**571**	**2.1**	**5.7**	**0.5**
(d) Other	**671**	**248**	**423**	**0.4**	**0.5**	**0.4**
Total	**160,590**	**50,235**	**110,355**	**100.0**	**100.0**	**100.0**

Source : Census of Population and Agriculture, 1960, Vol. II, Housing.

The enumerated houses in 1960 amounted to 160,590, out of which 50,235 were in urban and 110,355 in rural areas. At the same time the Census enumerated 145,709 households 51,343 in urban and 94,366 in rural areas, which indicates that overall there was no shortage of houses in that year. Further elaboration of these numbers, however, and allowing for sub-standard units, vacant dwellings in villages, etc., the overall figures show that there was a small shortage of houses in certain areas.

Generally speaking, and in view of the fact that many young couples live with their parents for reasons other than the shortage of houses, it could be said that practically there was no housing shortage in 1960. On the other hand, during the period 1961–1971 the number of new dwellings erected is estimated at around 35,000, while the number of new households added (net) is estimated to be of a similar magnitude.

From the above it is evident that while there appears to be no significant shortage in the number of houses, the current supply of dwellings is only about equal to new demand and does not allow sufficient margin for the satisfaction of additional needs arising from obsolescence, abandonment of houses due to migration, the requirements of foreign families and the habitation of flats by single persons.

2.2 Size of Houses

The average number of rooms per dwelling in 1960 was 2.8 with an average of 3.4 rooms in urban areas and 2.5 rooms in rural areas(1). Ever since, the average size of all dwellings was steadily on the increase as new medium or large-size houses were built. It is estimated that in 1971 the average size of dwellings increased to 4.7 rooms in urban and 4.1 rooms in rural areas(2). Increase in the average size of dwellings took place in all parts of the Island as indicated in Table 2.

Average Size of Houses in Urban and Rural Areas by District, 1960 and 1971

TABLE 2

District	Average Number of Rooms per Dwelling			
	1960		1971	
	Urban	Rural	Urban	Rural
Nicosia	3.6	2.7	4.9	4.5
Kyrenia	3.6	2.7	4.9	4.2
Larnaca	3.4	2.8	5.0	4.7
Famagusta	3.2	2.5	4.8	4.5
Limassol	3.1	2.3	4.1	3.3
Paphos	3.3	1.9	4.9	3.0
Total	**3.4**	**2.5**	**4.7**	**4.1**

Source : 1. Census of Population and Agriculture, 1960.
2. Household Survey, 1971.

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(1) Kitchens are not counted as rooms in the national statistics, in contrast to the U.N. standard definition. Inclusion of kitchens would raise the averages to 3.2, 4.1 and 2.8 rooms per dwelling in all Cyprus, urban areas and rural areas, respectively.

(2) The 1960 census covered the whole population and the definition of dwelling is somewhat different. The figures for 1971 presented in this Chapter were taken from the Household Survey carried out by the Department of Statistics & Research for that year and exclude the Turkish Cypriot population.

2.3 Housing Facilities

During the last decade not only the size of housing units has increased, but there has also been a marked improvement in housing facilities, as demonstrated by the examination of the following indicators :

Toilets : Virtually all houses in towns, but only three-quarters of village houses, had some kind of toilet installation in 1960. About 53% of the dwellings in towns, but only 5% of rural dwellings had modern toilet of the flush type. By 1971, 86% of urban dwellings and 29% of rural houses were equipped with such facilities, a development which exemplifies the increased standard of hygiene now prevailing in Cyprus.

Bath or Shower : While in 1960 only 53% of urban and 11% of rural dwellings were fitted with a bath or shower, in 1971 the percentages rose to 76% and 24%, respectively.

Kitchen : The number of houses with separate kitchen facilities within the house has increased from 74% of the houses in urban areas in 1960 to 90% in 1971. In the rural areas the increase was from 34% in 1960 to 68% in 1971.

Piped water supply : In 1960, 95% of all urban houses and 16% of the rural houses had piped water supply, either inside or outside the house. By 1971 it is estimated that the above percentages had risen to 100% and 92%, respectively.

Electricity : Despite the progress made during the period 1946–1960 only 43% of the houses were supplied with electricity in 1960. In that year only 22% of rural houses and 92% of urban houses were supplied with electricity. Progress in rural electrification has been substantial during the last decade and by 1971 it is estimated that 92% of the population was on electricity supply.

2.4 Building Materials

Another internationally applied indicator of housing conditions is the type of building materials used in the construction of dwellings. In the case of Cyprus, as Table 3 shows, there has been considerable improvement in the quality of the existing stock of dwellings, both in towns and in villages, from the point of view of the construction materials used. The use of mud in the construction of exterior walls, roofs and floors has declined significantly in favour of superior and more durable building materials.

TABLE 3 **Percentage Distribution of Dwellings by Type of Construction Materials Used, 1960 and 1971**

	Urban		Rural	
	1960	1971	1960	1971
1. OUTSIDE WALLS :				
Bricks, Cement, Stones	67.2	85.6	59.9	67.7
Mud-bricks	30.2	14.1	39.1	32.0
Other	2.6	0.3	1.0	0.3
2. ROOF :				
Tiles, Cement	89.6	96.5	42.6	83.3
Mud	4.5	2.0	52.4	11.4
Other	5.9	1.5	5.0	5.3
3. FLOOR :				
Wood, Marble, Cement Tiles	96.0	99.5	73.8	93.3
Mud	1.9	0.2	21.4	4.8
Other	2.1	0.3	4.8	1.9

Source : Department of Statistics and Research, " Household Survey, 1971 ", Vol. I, Housing.

2.5 Occupation

Vacancy : In 1960, 11.8% of all conventional housing units were vacant. The vacancy rates were higher in the villages (14.7%) than in the towns, where only 5% of the conventional housing units were vacant. Statistical data for 1971 are not available, but the vacant houses in rural areas must have increased as a result of the continued rural-urban migration and because of the political situation.

Seasonal Occupation : In 1960, 2% of the total housing units located mainly in rural areas were not occupied all the year round due largely to variable requirements in agricultural and other activities. Again, since 1960, the number of seasonally occupied dwellings will probably have increased owing to the increased wealth of the population and the consequent accompanying demand for second houses.

Tenure : In 1960 about 45% of the households were living in rented premises. There is evidence that there is still a high proportion of rented accommodation.

Occupancy Rates : The increase in the average size of dwellings during the last decade, coupled with the fact that the average size of households remained almost unchanged, has contributed towards more comfortable living conditions and has reduced overcrowding. Thus, while in 1960 the average number of persons per room was 1.36 in villages and 1.21 in towns, in 1971 these were reduced to 1.02 and 0.84 persons per room respectively(1). Moreover, as Table 4 shows, in 1971 more than 65% of urban and about 59% of rural households accommodated less than one person per room. This represents a significant improvement over 1960 when only 21% of urban and 12% of rural households did so. Furthermore, while in 1960 more than 50% of rural households accommodated two persons or more per room, this is very uncommon now. Again, the improvement in housing densities was widespread covering all parts of the Island (Table 5).

Distribution of Households by Average Number of Persons per Room

TABLE 4

Average No. of Persons per Room	% of Households			
	1960		1971	
	Urban	Rural	Urban	Rural
Less than 1	21.4	12.0	65.4	58.5
1 but less than 2	43.3	35.8	34.4	39.0
2 and over	35.3	52.2	0.2	2.5

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(1) The two sets of figures are not strictly comparable because of the exclusion of kitchens and the inclusion of vacant houses in the total dwelling stock in 1960. For this year the average number of persons per room should be close to 1.38 and 1.04 for villages and towns, respectively.

TABLE 5

Average Housing Densities in Urban and Rural Areas by District, 1960 and 1971

District	Persons per Room 1960 Urban	1960 Rural	1971 Urban	1971 Rural
Nicosia	1.15	1.34	0.81	0.94
Kyrenia	0.90	1.19	0.70	0.96
Larnaca	1.25	1.30	0.78	1.09
Famagusta	1.28	1.35	0.84	0.90
Limassol	1.34	1.36	0.96	1.15
Paphos	1.19	1.61	0.84	1.39
Total	**1.21**	**1.36**	**0.84**	**1.02**

Source : 1. Census of Population and Agriculture, 1960.
2. Household Survey, 1971.

2.6 Number of Houses Erected during 1967–1971

During the period of the Second Plan a total of 13,074 new houses were built and 3,496 additions to existing ones were effected (Table 6.). The average number of rooms per new dwelling in urban areas increased from 4.7 in 1966 to 5.1 in 1971, and in rural areas from 4.0 to 5.3 rooms.

TABLE 6

Number of Houses Erected, 1967–1971

	1967	1968	1969	1970	1971	1967–71
New	2,321	2,434	2,489	2,780	3,050	13,074
Additions	655	634	739	701	767	3,496
Total	**2,976**	**3,068**	**3,228**	**3,481**	**3,817**	**16,570**

Source : Construction and Housing Report, 1971, Department of Statistics and Research.

Though the pace of construction of dwellings has accelerated during the period under review, the number of new marriages which have taken place has been higher than the number of dwellings completed. Thus, the supply of new houses has only marginally met the estimated demand for houses. More than half (57.6%) of the dwellings completed during this period were in rural areas.

The Government direct participation in the erection of houses during the Second Plan period has been small. However, as envisaged in the Plan, extensive studies were conducted on the housing conditions in Cyprus as well as on ways and means for encouraging and facilitating improvements in these conditions. After preliminary studies by the competent Departments have been completed, the services of three experts on various aspects of housing were secured through the UN technical assistance programme. The last expert's report was submitted in June, 1971. The findings of these studies will be used for the formulation and implementation of a more active housing policy during the Third Plan period.

3. The Third Five-Year Plan, 1972–1976

Before setting out the objectives and targets of the housing programme for the period 1972–1976 and discussing the ways and means for its implementation, it would be useful to analyse and define the problems connected with housing in Cyprus.

3.1 The Housing Problem in Cyprus

From the review of developments during the past decade, it would appear that the housing situation in Cyprus is not unsatisfactory, taking into account the level of development of the country. It compares favourably with the situation prevailing in other countries at a similar or even more advanced stage of development. Furthermore, there is a pronounced trend for continuous improvement. The principal shortcomings of the existing situation in Cyprus may be summarized as follows :—

(i) excessive overall investment, especially in luxury housing ;
(ii) high housing construction costs and prices of building plots ; and
(iii) inadequate mechanism for financing the construction and/or acquisition of housing accommodation.

The consequence of this is that the prevailing cost of housing accommodation is often above the corresponding normal allowable income for housing, especially in the case of certain middle and low income strata of the population. This is in fact the crux of the housing problem in Cyprus. In the result, a number of households are obliged either to dwell in sub-standard houses or to squeeze expenditure on other items of the family budget. The situation appears to be more serious in urban areas.

3.1.1 Excessive Investment in Housing

During the period of the Second Plan, investment in housing absorbed on an average 33.5% of fixed capital formation and 7.1% of G.N.P. As Table 7 shows, investment in housing rose from 6.0% of G.N.P. in 1967 to 7.5% in 1971. Similarly, the proportion of investment taken by housing increased from 33.2% in 1967 to 33.7% in 1971.

Fixed Investment in Housing as a Proportion of G.N.P. and Gross Domestic Fixed Capital Formation

(At Current Prices—£mln.)

TABLE 7

	1967	1968	1969	1970	1971	1967–71
1. Gross National Product ..	172.1	186.4	213.7	228.5	259.6	1,060.3
2. Gross Domestic Fixed Capital Formation	31.3	37.3	45.8	53.4	57.9	225.7
3. Fixed Investment in Housing	10.4	13.1	15.1	17.4	19.5	75.5
4. Housing Investment as % of G.N.P.	6.0	7.0	7.1	7.6	7.5	7.1
5. Housing Investment as % of Gross Domestic Fixed Capital Formation	33.2	35.1	33.0	32.6	33.7	33.5

Source : Department of Statistics and Research and Planning Bureau.

According to internationally accepted norms fixed investment in housing should be around 5–6% of G.N.P. (minimum for countries with an annual growth rate of 5% or over) and at least 20% of fixed capital formation. It would appear, therefore, that investment in housing in Cyprus absorbs a higher proportion of G.N.P. and fixed investment than is warranted by the real needs. This situation, coupled with the fact that the supply of new houses is not exceeding demand, indicates that with the same resources as are now allocated to housing (or with even less) more houses could be built. The main reasons for this are the high housing construction costs, the high prices of building plots (especially in towns and suburbs) and the tendency for luxury construction. If this situation is allowed to continue, it will affect the investment programmes in other productive sectors without at the same time contributing to the solution of the housing problem as defined above.

3.1.2 High Housing Construction Costs and Land-Prices

The provision of various types of houses hinges on the ability of families to pay for them. It would not be sufficient to ensure that there is an adequate supply of houses in good condition to meet requirements, unless housing prices are within the financial capabilities of the people. In Cyprus, where per capita G.N.P. is lower than that of W. European countries, new houses of W. European standard are demanded and the cost of urban land is high.

It is usually accepted that the desirable proportion of income to be paid on rent or other outgoings on house purchase should range between 15% for low income people to 25% for those in the upper income groups, with an average of 20%. This relationship, determined from experience, is designed to allow a reasonable proportion of income to be used for other purposes.

Due to lack of statistical data on household incomes in Cyprus, it is impossible to determine the relationship between expenditures on housing and incomes. However, various overall indications suggest that the percentage in Cyprus is higher than the above norm. Although these indications may not be conclusive, because the relationship between family incomes and housing prices should be studied for each individual income group, they help pinpoint the problem already mentioned of relatively high housing costs *vis-a-vis* prevailing incomes. As a result, a sizeable proportion of total potential demand for houses is not satisfied.

Part of the unsatisfied demand could be met through an enlarged low-cost housing programme designed to meet the housing needs of the lower-income groups. The remaining part could be met through an effort to reduce construction and land costs to levels commensurate with incomes, alleviating at the same time the burden of the cost of new housing on the individual in general. This could be achieved through a series of measures aiming at increasing labour productivity, mechanization and standardization of construction activities, efficient and economic utilization of raw materials and reduction or stabilization of the cost of building plots.

3.1.3 Inadequate Mechanism for the Financing of Housing

Apart from better utilization of housing construction inputs, which will have a dampening effect on the cost of new houses, another measure which appears to be necessary is the rationalization of housing finance.

Under present conditions, the main source of funds for the building of a house for the middle and upper income groups is accumulated wealth. The balance of the amount required is usually obtained either from commercial banks or from other, mainly private, lending sources. The terms under which these loans are made are relatively strict. A typical loan from a lending institution would represent about 50–70% of the building cost, would extend for a period of 5–10 years and would carry an interest rate in the region of 9% per annum. Given the usually high proportion of the cost of land to building costs, a situation arises in which external housing finance covers only 30% or less of the total cost of a house.

What appears to be lacking in Cyprus, therefore, is the specialized type of institution which exists in other countries and which as a matter of policy and operational practice accepts savings and deposits and makes loans to individuals to finance the purchase of a house. These banks or thrift institutions appear under various names, such as Building Societies, Savings and Loan Associations and Savings Banks. It would appear that a self-supporting institution, such as a Building Society, may be desirable to serve the housing finance needs of a large proportion of the population. Although such Building Societies do exist, they cater for the needs of special groups of people and their services are not available to the general public. Moreover, the operations of these Societies are usually handicapped by the lack of adequate financial resources.

3.2 Long-term Objectives and Targets

Good housing conditions are a necessary prerequisite for a healthy and productive labour force and determine to a large extent the standard of living of the population. The need to increase living standards and the demographic changes that accompany economic growth will greatly increase the demand for housing in the future. Thus, the long-term objectives of the Government in the field of housing will be :—

(*a*) To ensure that there is an adequate supply of houses to cater for the needs of all social classes.

(*b*) To improve housing densities, so that no person need live at a density exceeding acceptable standards as far as persons per room is concerned.

(*c*) To ensure that all dwellings which are obsolete functionally, structurally or in terms of hygiene be replaced gradually but in any case within a period of thirty years.

(*d*) To maintain an acceptable level of fixed investment in housing, thus releasing resources for investment elsewhere and avoiding luxury dwelling construction. Total annual investment in residential building will be kept between 20% and 33% of gross fixed capital formation and 5–7.5% of G.N.P.

(*e*) To take measures to reduce housing costs so that the expenditure of a low income family on rented accommodation or on instalments for the repayment of building loans will not exceed 15% of its income.

On the basis of the above objectives it has been estimated that a total of about 160,000–170,000 new houses will be needed during the period 1972–2000. These new housing units will cater for increased demand arising from population increases, replacement of obsolete dwellings, demolitions, vacancies and second houses.

3.3 Targets during the Third Plan

The required total number of completions by 2,000 could be achieved by a progressive annual increase in the rate of house building. This would, however, imply a very high rate of completion of dwellings per thousand of the population by the end of the century compared to the present rate. This is undesirable for a number of reasons : too much pressure on both the resources and the construction industry towards the end of the century, deferred satisfaction of pressing needs especially of low income groups, etc. It is, therefore, necessary to phase out the housing construction programme in such a way so as to achieve gradually the longer-term objectives without the above undesirable repercussions.

In accordance with the phasing of the long-term housing programme, during the period of the Third Plan a total of about 23,000 new housing units will be needed. The achievement of this target will in fact necessitate an annual increase in the construction of dwellings of about 6.3% per annum. Thus, it is anticipated that the number of completions will increase from 3,817 in 1971 to 5,177 in 1976, indicating that the rate of completion per thousand of the population will rise to 7.5 units by 1976 from about 6.0 in 1971. The estimated investment in dwelling construction will rise from £18.1 mln. in 1971 to £23.5 mln. in 1976, at constant 1970 prices, whereas total investment during the 1972–1976 period is estimated to amount to £106.0 mln. This comprises 30.3% of total fixed investment. The projections assume that the cost of house building will be reduced slightly as a result of increased efficiency and the construction of less luxurious houses.

3.4 Housing Policies and Measures during the Third Plan

For the attainment of the targets of the Third Plan and in order to lay the foundations for the successful promotion of the fulfilment of the above longer-term objectives, the Government will take various policy measures and implement housing programmes during the period 1972–1976.

3.4.1 Low-Cost Housing

The Government will take a more active part than hitherto in the construction of low-cost houses within its efforts to solve the housing problem of the low-income strata of the population, through the erection of an increased number of low-cost housing units in urban areas as well as through the initiation of programmes to improve housing conditions in rural areas. Priority will be accorded to certain urban localities where the problem appears to be more acute. The houses to be erected will be made available to low-income families on low rent or rent-purchase terms. This housing scheme will benefit those families which, on account of their low income, cannot secure relatively satisfactory housing conditions without Government assistance and the benefits of the more general housing measures and schemes to be taken and implemented are unlikely to reach them.

3.4.2 Land for the Erection of Houses

Of the three factors conditioning the cost of a building—labour, materials and land—the latter is the most variable, taking up to 50% or more of the cost of a dwelling in the principal towns, or 5–10% of the cost of an equivalent dwelling in rural areas. Increasing land prices in Cyprus and their repercussions, *inter alia*, on the cost of house construction, have been the subject of a comprehensive report by an inter-Departmental Committee. Government has already studied this report and decisions have been taken with a view to working out appropriate measures to curb the rising prices of land and combat land speculation.

Although land is not particularly scarce in Cyprus in terms of usable donums per 1000 population, it is for various reasons costly in certain areas, mainly in towns and suburban villages, with unfavourable repercussions on the total cost of houses. In addition to the general measures to be taken, one way to curb increasing prices of land for building purposes is to enlarge the supply of building sites in various critical areas. During the Third Plan period, consideration will be given to the possibility of setting up a Land Development Corporation vested with powers to acquire cheap land, within and near urban centres, for the purpose of developing it into residential areas.

3.4.3 Housing Financing Mechanism

Parallel to the efforts to increase the supply of building sites, it is proposed to encourage the establishment of a more effective specialized housing financing mechanism whereby housing loans will be made available under favourable terms.

3.4.4 Other Measures

As already indicated, the housing programme is characterized by deliberate efforts to reduce the total cost of new houses and to increase the supply of dwellings without having to draw on a larger share of total available resources than hitherto. To this effect, a series of other measures are intended to be taken during the period 1972–1976, as follows :—

(i) Increasing housing densities in order to achieve a more efficient land use and reduce the cost of land per dwelling.

(ii) Lowering housing construction costs through such measures as the training of more workers in building trades in order to enhance labour productivity, encouraging prefabrication, mechanization, standardization, quality control and testing of building materials and components, using more locally produced raw materials, etc. Further reference to these measures is made in other parts of the Plan.

3.5 Development Expenditure on Housing

Apart from institutional measures, the Government will incur a sizeable amount of development expenditure for the implementation of the above housing programme. As far as the institutional measures are concerned, arrangements have already been made to secure the services of expert advisers from multilateral sources of technical assistance. As far as direct Government participation in the financing of housing is concerned, an amount of £1.2 mln. has been earmarked in the Plan to be spent on the erection of low-cost houses. If it is finally decided to proceed with the establishment of a Land Development Corporation, it may be necessary for Government to provide initial finance directly or indirectly. For this purpose some provision has been made in the development expenditure allocations.

CHAPTER 22

SOCIAL WELFARE, SOCIAL INSURANCE AND OTHER SOCIAL SERVICES

A. SOCIAL WELFARE

1. Introduction

The main focus of attention of the social welfare sector is on the vulnerable groups of society who are in this predicament either because they suffer from various incapacities and handicaps or because they are young or old, and who tend to drop out of the organized system of society. It attempts to strike an equitable balance between the achievements of economic development and the distribution of these achievements ; it facilitates the redistribution of generated income among the needy sections of the community while at the same time ensuring that human rights are observed and safeguarded.

2. Progress during the Second Plan

The objectives of the Second Plan were defined to be :—

(*a*) to prevent groups of citizens or individuals from becoming dependent on the economy and to restore to normal living citizens whose behaviour displays anti-social tendencies or maladjustment ; and

(*b*) to satisfy and safeguard the rights of citizens in general to decent standards of living.

A number of projects and programmes were envisaged as appropriate means through which these objectives could be pursued. The progress with the implementation of these projects and programmes during the period under review is summarized in the following paragraphs.

(i) INCOME MAINTENANCE—RESEARCH AND LEGISLATION

The public assistance scheme, the objective of which is to relieve destitution, is now operating on the basis of administrative regulations. Eligibility depends on the proof of need through a means test.

The idea was put forward in the Second Plan that legislation might be needed which would lay down the criteria for eligibility to assistance. A study of family standards of living and minimum subsistence levels was also carried out.

The present thinking is that whereas the scheme should continue to be operated on the basis of administrative regulations, a review should be made of the criteria for eligibility and that the public assistance grants also should be revised.

In the meantime, the costs of the scheme have been rising steadily. Public assistance grants, which totalled £143,000 in 1960 increased to £166,000 in 1966 and reached the level of £242,000 by 1971.

(ii) REGISTRATION AND INSPECTION OF DAY CARE NURSERIES AND CHILD MINDERS

The Second Plan stressed the importance attached to day care services as a means of encouraging mothers to actively participate in the labour force at a time when shortages of manpower became apparent. These services were encouraged through technical and financial assistance and under the strict enforcement of the existing and revised regulations providing for the registration and inspection of day care nurseries in accordance with sound minimum standards of service. At the same time the Government set up its own pilot Day Care Nursery in Nicosia and assisted a number of other nurseries established by Community and Voluntary Organizations.

The number of nurseries under the supervision of the Department of Social Welfare Services grew from 20 in 1966 to 102 by 1971, and the number of children left to the care of these institutions rose from 779 to about 3,500 during the same period.

(iii) AMENDMENT OF THE ADOPTION, CHILDREN'S AND JUVENILE OFFENDERS' LAW

The Second Plan singled out the three laws pertaining to children and juveniles, which were thought to be in need of amendment, either in order to ensure increased safeguards for the welfare of children placed for adoption (Adoption Law), or to provide additional measures and guarantees for the protection and treatment of children (Children's Law) or to lay greater emphasis on the reformative rather than the punitive aspects of treatment of offenders (Juvenile Offenders' Law). In general, the objective was to bring the above laws up-to-date and to reform them in line with modern social philosophy concerning the protection of children and the treatment of juvenile offenders. For this purpose, the Department of Social Welfare Services formulated proposals for amendments which were circulated among various interested bodies for consideration. The outcome of these deliberations was the suggestion to enact a single Children's Code embodying the modern approach to protection, care and treatment of offenders to replace the existing legislation.

(iv) CONSTRUCTION OF PREMISES FOR WELFARE INSTITUTIONS

A number of welfare institutions are directly run by the Department of Social Welfare Services and in order to enable them to operate more efficiently the Plan provided for the improvement and expansion of their premises. Thus, new premises were erected for the Children's Home in Limassol, the extension of the Boys' Hostel in Nicosia was completed and work on the construction of a Hostel for maladjusted girls, now operating in rented premises, started in 1971 and is expected to be completed early in the Third Plan.

(v) ESTABLISHMENT OF YOUTH CENTRES

A novel feature of the Government welfare activities during the Second Plan was the establishment of youth centres to supply services and amenities to the working youth, such as cheap mid-day meals, facilities for rest, play and recreation, etc. These centres were meant to serve as a medium for the social and cultural development of youth, encouraging their participation in community action and minimizing the possibility of anti-social action. Thus, Government established two model youth centres in Nicosia and Limassol and participated actively in the creation of a third one at Famagusta. Furthermore, the Government encouraged communities and voluntary organizations through technical and financial assistance to create their own youth centres, which by the end of 1971 numbered 24.

(vi) COMMUNITY ORGANIZATION SERVICES

Past experience in this field suggested that the fragmentation of community and voluntary welfare organizations was not conducive to the efficient and rational utilization of funds, because of lack of planning, organization, technical knowledge and co-ordination in running voluntary welfare services. In recognition of the fact that the community at large, if properly mobilized, could contribute to the promotion of social welfare services, a Community Organization Section was set up within the Department of Social Welfare Services. This Section was charged with responsibility for stimulating community welfare activities by enhancing community awareness of social problems and providing technical and financial assistance for the planning, co-ordination, organization and administration of voluntary social welfare services.

In order to promote the policy objectives underlying the programme for community services, the Department encouraged the organization of Community Welfare Councils as a first step towards the establishment of District Welfare Councils and, ultimately, of a National Welfare Council, whose functions would be to identify social problems and participate as community representatives in the planning, organizing and co-ordinating of voluntary welfare services. By the end of 1971 there were 57 Community Welfare Councils in various parts of the Island and a District Welfare Council operating in Nicosia. With Government assistance these councils and other voluntary organizations introduced a number of social services, i.e., day care nurseries, youth clubs, a home for severely retarded children, a home for disabled and bed-ridden persons, etc. The Government grants-in-aid scheme was revised and expanded so as to afford greater scope for assisting private or voluntary welfare activities.

3. Development Expenditures, 1967–1971

To enable the implementation of projects and, thus, the achievement of the objectives set, a total of £80,000 had been allocated on social welfare services as development expenditure. This target was exceeded. Realized expenditure by major schemes appears in Table 1.

TABLE 1 **Development Expenditures on Social Welfare, 1967–1971**

	£
1. Youth Centres	8,266
2. Erection of Welfare Institutions	23,399
3. Day Care Centre	3,078
4. Grants-in-Aid to Voluntary Organizations	33,105
5. Other	27,028
Total	**94,876**

Source : Planning Bureau.

At the same time, for the ordinary services and functions of the Social Welfare Department a sum of £1.6 mln. was spent during the period from the Ordinary Budget, out of which £1 mln. went to finance the public assistance scheme.

4. The Third Five-Year Plan, 1972–1976

During the 1972–1976 period more emphasis will be placed on the improvement and development of social services in general. The Third Plan envisages significant developments in Education, Health, Housing, etc., all of which touch upon the wider concept of social development. Social development planning in general and social welfare planning in particular will be placed on a better basis with a consistent set of social objectives, targets and policies to be pursued within the overall development effort. This will promote further the integration of social planning with economic planning.

4.1 Objectives of the Third Plan

The overall objectives adopted for the Second Plan will continue to serve as the framework for new and the improvement of existing programmes, projects and policy measures. More specifically, the aims and objectives of the Third Plan will be :—

(*a*) to minimize the effects of economic dependency and poverty through the operation and improvement of the public assistance scheme and the promotion of the rehabilitation services ;

(*b*) to promote the welfare of children through—

  (i) enhancing opportunities for children's normal development (e.g. through day care services, improved health services and dietary habits, education, and other provisions for their socio-cultural development) ;

  (ii) prevention or treatment of the negative factors which lead to children's ill-treatment, neglect and/or desertion ; and

  (iii) improvement of institutional and other services offered to children ;

(*c*) to provide improved services to the physically and mentally handicapped and ensure their proper care and treatment, promoting as far as possible the development and utilization of their physical and mental capacities ;

(*d*) to stimulate further the awareness of groups of their social responsibilities for community welfare, and to activate increased participation and contribution to socio-economic development, social planning and social action ; and

(*e*) to improve further the services for the prevention and treatment of delinquency.

4.2 Projects, Programmes and Policy Measures of the Third Plan

To facilitate the attainment of the above objectives, the following projects, programmes and policy measures are envisaged during the Third Plan period.

(i) SOCIAL WELFARE RESEARCH AND PLANNING

An economically advancing country is undergoing fundamental changes, which create social problems. These problems may be apparent in some cases, while in other cases the identification and remedial action needed requires systematic research work. Even when the problem is known without proper information and data, it is difficult to prescribe treatment unless the nature of the problem, its extent and the direction of change is fully known and assessed. One of the main aims of the Third Plan will be to place on a sounder basis sociological research and planning, to undertake, *inter alia*, surveys and studies on social welfare needs and their order of priority, and assist in the designing of remedial action.

In this connection, expert advice has already been sought under the U.N. Technical Assistance Programme. The foreign expert will be required to review existing programmes, to organize the systematic collection and analysis of data for future planning, to advise on institutional changes needed and on the desired direction of future social research.

(ii) ECONOMIC DEPENDENCY AND INCOME MAINTENANCE

Despite the overall substantial economic progress attained so far, a number of persons is left behind and become economically dependent. To enable this group of people to participate in the socio-economic progress, the Public Assistance Scheme will be reviewed in the early stages of the Third Plan to provide for improved allowances and social work services.

(iii) WELFARE OF FAMILY, CHILDREN AND YOUTH

The Welfare of children and youth are among the most important aspects of the social welfare services. The Third Plan envisages the promotion of the following programmes designed to secure their welfare :

(*a*) The legislation concerning the care, protection and treatment of children and youth will be amended in the light of the experience gained and the results of studies carried out to permit preventive action and improved methods of treatment.

(*b*) Consideration will be given to the provision of social work services to families with marital conflicts and other psycho-social problems which lead to family breakdown or endanger children's welfare and development, and to the establishment of a family guidance centre.

(*c*) The standard of institutional services to children in care will be improved through—

  (i) the re-organization of the existing institutions (amalgamation of the two institutions for adolescent girls, and the designation of one of the Children's Homes as a Home for maladjusted children);

  (ii) the increase of staff and provision of opportunities for their proper training; and

  (iii) the construction and equipment of appropriate premises (Nicosia Children's Home).

(*d*) The appropriate form of institutional services for severely retarded children who require prolonged institutional care will be studied. A parallel service is envisaged for spastic and crippled children under the Health Sector.

(*e*) Further promotion of day care services to children of working mothers. These services will not only ensure the normal development of children, but will also facilitate mothers of young children to join the labour force and thus relieve manpower shortage.

(iv) DELINQUENCY AND SOCIAL DEFENCE

The anti-social behaviour of children and youths is often attributed to negative family influences. During the Third Plan period emphasis will, therefore, be laid on the prevention of family breakdown and the treatment of family problems. Legal provisions and services relating to the treatment of delinquents will also be revised in the light of modern trends and knowledge.

(v) WELFARE OF MENTALLY AND PHYSICALLY HANDICAPPED PERSONS

Mental maladjustment seems to be on the increase. During the previous five-year plans, emphasis was placed on the expansion of mental hospital facilities and the provision of services for the treatment of the family and social problems of the inmates. These services will continue during the Third Plan, but they will be expanded to encompass the following objectives :—

(*a*) to detect at an early stage persons suffering from mental illness and help them seek treatment on their own will ;

(*b*) to provide adequate services to the mentally ill both in the community and within the institution; and

(*c*) to stimulate community awareness of the problems and needs of the mentally ill.

In order to achieve the above objectives it is intended—

(i) to make provision for adequate case-work services to the mentally ill and their families both in the community and within the Psychiatric Institutions ; and

(ii) to amend as appropriate the existing legislation relating to mental patients.

The rehabilitation of the physically disabled persons has already attracted adequate attention with the establishment of the Rehabilitation Centre during the Second Plan. During the Third Plan, it is intended to extend the above scheme :—

(i) to cover the production of artificial limbs and appliances locally (see Chapter on Health); and

(ii) to cater for more handicapped persons.

It is also intended to provide opportunities for the residential care of people with a high degree of physical incapacity which renders their care in the family impossible.

(vi) COMMUNITY ORGANIZATION SERVICES

The participation of the citizens at large in planning and promoting community welfare becomes essential, not only as a means for creating social consciousness and social responsibility, but also as a means through which problems may be brought to the surface and dealt with either by the communities themselves or by the State. Therefore, community services which started during the Second Plan period with the principal aim of achieving citizen participation in social welfare action will be continued and expanded.

For the successful realization of the above the Government will, in addition to other services, expand the existing scheme of financial assistance to voluntary organizations and revise the conditions under which grants-in-aid are provided.

4.3 Development Expenditures, 1972–1976

A summary of the development expenditures to be allocated during the Third Plan period for the implementation of the projects and programmes outlined above is presented in Table 2. The funds below exclude expenditure to be allocated out of the Ordinary Budget.

Development Expenditures on Social Welfare, 1972–1976

TABLE 2

	£
1. Youth Centres	15,000
2. Day Care Centre	25,000
3. Welfare Institutions	50,000
4. Grants-in-Aid to Voluntary Organizations	150,000
5. Other	60,000
Total	**300,000**

Source : Planning Bureau.

B. SOCIAL INSURANCE

The significance of Social Insurance lies in the fact that it provides contributors (workers, farmers, self-employed, etc.) with the means to face personal crises, such as unemployment, injury, sickness, as well as more prolonged periods of acute need, e.g., old age, widowhood, orphanhood. The Social Insurance Scheme constitutes also an important instrument for the redistribution of income, because the impact of the scheme benefits more the low income groups of the society.

1. Developments during the Second Plan

The Social Insurance Scheme provides universal coverage for all the employed population (employers and employees) on the Island, including agricultural workers, farmers and other self-employed persons. In the case of employees the scheme provides cash benefits in the form of marriage grants, maternity, sickness and unemployment benefits, widows' pensions, death grants, orphans' benefits, old-age pensions and employment injury benefits. On the other hand, in the case of self-employed persons cash benefits for marriage, widowhood, orphanhood, old-age and death are provided.

The expanded coverage of the scheme and the total amount of benefits granted under the scheme are indicative of the progress achieved during the Second Plan period in the field of social insurance. The number of active contributors to the scheme has risen from 147,130 persons in 1966 to about 185,000 in 1971. The income of the Fund amounted to £2.2 mln. in 1966, out of which about £1 mln. was paid out in benefits and management expenses. By the end of 1971 the income of the Fund rose to £4.7 mln., out of which £3.7 mln. were paid out in benefits and management expenses. It should be noted that the Government general contribution to the Scheme amounted to £1.4 mln. in 1971 compared with £0.6 mln. in 1966. The accumulated surplus of the Fund over the years stood at £8.1 mln. in 1971.

The financing of the Scheme in the case of employees consists of three equal contributions by the employee, the employer and the Government. The weekly rate of contribution by each contributing party was increased in 1969 to 180 mils for males and 140 mils for females and males under eighteen years of age. The weekly contributions of self-employed persons were also increased to 320 mils for men and 260 mils for women, with the Government contributing an additional 50%. The increased contributions resulted in an increase of the benefits granted under the Scheme by 7–8%. Finally, a complete series of studies was undertaken with regard to the further improvement of the flat-rate benefits under the existing social insurance scheme and the introduction of a new dimension to it through a supplementary pensions/wage–related scheme in the near future.

2. Prospects during the Third Plan

The Social Insurance Scheme and the institution of provident funds are among the means for transferring income to the less prosperous income groups, particularly during the most difficult moments of life. As already said, considerable time has been devoted to the preparatory work for the introduction of an auxiliary wage-related pension scheme and the further improvement of the benefits under the existing flat-rate social insurance scheme. Moreover, a complete study has been made on the introduction of statutory regulations on the operation of various provident funds.

The changes envisaged to be introduced during the Third Plan period include the following measures :—

(i) IMPROVEMENT OF THE EXISTING SOCIAL INSURANCE SCHEME (FLAT-RATE)

The scope of the existing scheme will be expanded in an effort to bring the benefits provided under the scheme to more realistic levels, in the light of the price and income changes that have been recorded since its last revision. Thus, benefits will increase on average by about 45%. The increased benefits to be granted under the modified scheme will be financed from increased contributions on the part of Government, employers and employees. Other basic improvements proposed to be introduced are :—

(*a*) The introduction of an additional benefit under the scheme to cover pension for permanent disability caused while at work.

(*b*) The granting of benefits for sickness and maternity to self-employed persons.

(*c*) The extension of the period for which sickness and unemployment benefits are granted.

(*d*) The integration of the Pneumoconiosis (Compensation) Scheme with the general Social Insurance Scheme.

(ii) INTRODUCTION OF A WAGE-RELATED SOCIAL INSURANCE SCHEME

The contributions to the present flat-rate social insurance scheme, proposed to be modified on the above lines, are based on the wages of unskilled labour and, therefore, the benefits granted under the scheme are not commensurate to the income needs of higher income groups. This situation has led to the introduction of supplementary provident fund schemes, which lack uniformity. To fill this gap, studies have been carried out for the introduction of a supplementary wage-related social insurance scheme to provide for additional pensions for old-age, widowhood, orphanhood and permanent disability. Its coverage is proposed to extend initially to employees. The principles governing the new wage-related social security scheme are currently under discussion between the interested parties.

(iii) LEGISLATIVE REGULATION OF PROVIDENT FUNDS

Another important measure envisaged during the Third Plan period is the introduction of new legislation to govern the establishment and administration of Provident Funds. Among other things, this measure will ensure the co-ordination of the policy of the Funds with the general principles of social security legislation and national economic policy. As in the case of the wage-related social insurance scheme, the general principles of the legislation are being considered by interested parties.

C. THE ADMINISTRATION OF JUSTICE AND CORRECTIONAL INSTITUTIONS

The role of Justice and of correctional institutions in the smooth running of society need not be overemphasized. The fair dispensation of justice, the equality before the law, the protection against abuse and the infringement of personal freedoms, as well as the corrective and rehabilitatory activities of correctional institutions are indispensable means for the preservation of order in a civilized society. In addition, the existence of outdated and conflicting laws and regulations does not only create uncertainty and feeds abuse, but may inhibit the attainment of economic growth and social development. Thus, the Government through its five-year plans endeavours to preserve a modern and efficient system for the administration of justice and an up-to-date legislation.

1. Progress during the Second Plan

The two main objectives of the Second Plan regarding the administration of justice and the treatment of offenders were :—

(*a*) to maintain a very high standard of justice and safeguard the integrity and independence of the judiciary thereby securing the smooth, fair, just and equitable administration of justice ; and

(*b*) to improve further the methods and means of operation of the present correctional institutions and to bring the legislation governing the treatment of offenders up-to-date.

Various programmes and policy measures were envisaged to be implemented during the Second Plan so as to enable the attainment of the said objectives. The achievements during the period under review can be summarized as follows :—

1.1 Administration of Justice

The various measures taken with a view to improving further the administration of justice and the legal system in general included the setting up of *ad hoc* inter-departmental committees to study various aspects of legislation and to submit proposals for reform ; the amendment of the Courts of Justice Law (Law 40/70) to enable the recruitment of an increasing number of Judges at the District Courts ; the enactment of the Advocates (Amendment) Law No. 46 of 1970, which lays down minimum periods of practice before an advocate is entitled to appear before the higher Courts ; the enrichment of the Law Library ; the study and the formulation of proposals for decentralizing the administration of Justice, which, however, due to various unforeseen obstacles, was not found possible to be enforced ; the preparation of the conditions for the possible establishment of a Law Commission ; the implementation of a programme for the construction of new and the improvement of existing court buildings. Within this programme a new Court building was erected for the District Court of Famagusta and plans have been prepared for the erection of a new District Court building in Limassol, while the Supreme and District Courts building in Nicosia underwent alterations and improvements.

1.2 Treatment of Offenders and Correctional Institutions

The treatment of offenders is an important aspect in the discharge of justice. The concepts of treatment have to conform with the modern understanding of human nature and embrace the provision of suitable surroundings and conditions during imprisonment. In accordance with these principles the following schemes were implemented during the Second Plan period.

Prisons : The educational, vocational training and recreational facilities of prisons were improved. The treatment of young offenders has received special attention. The fact that young offenders were housed with and treated like other hardened criminals was not considered appropriate. To remedy this situation a young offenders' section was created. Various improvement works to the prisons were also carried out mainly in order to promote the concept of the corrective rather than the punitive aspect of reform.

Lambousa School : The objective of corrective training, reformation and rehabilitation of boys under 16 is pursued at the Lambousa School. The school was supplied with additional training facilities and equipment, while the Juvenile Offenders' Regulations were amended to give power to the Minister of Justice to allow out-of-school education and training of the boys committed to the school.

Legislation on the Treatment of Offenders : The modernization of existing legislation affecting the treatment of offenders has been one of the objectives of the Second Plan. This objective was pursued through the setting up of a number of Committees: (*a*) to study the legislation in force relating to the treatment of children and young persons and to submit proposals for reform so as to bring the legislation into line with contemporary conception and trends regarding the treatment of juveniles ; (*b*) to study the legislation relating to the treatment of offenders in general and harmonize it with modern concepts and in particular to consider the introduction of release of prisoners on licence and supervision after release, a pre-release employment scheme, suspended sentences ; (*c*) to study the laws and regulations governing prisons and prisoners with a view to upgrading them ; and (*d*) to recommend revisions of the Mental Law, Cap. 252, which is considered to be out of step with present thinking.

1.3 Other Measures

Establishment of a Public Records Office : The Second Plan provided for the establishment of a Public Records Office as a way of improving the means for keeping official records and assisting statistical research by storing such important documents as treaties and conventions to which Cyprus has acceded. A bill has been drafted containing regulations and provisions for the setting up of such an office.

Simplification, Codification and Translation of Laws : Another important measure was the initiation of work aiming towards the simplification and codification of legislation. Such a task has been entrusted to a specially selected team of lawyers, which is also engaged in translating many of the Cypriot Laws from the English to the Greek language.

1.4 Development Expenditures, 1967–1971

During the Second Plan period, a total of about £154,000 was spent from the Development Budget on Court buildings, improvements to prisons and other correctional institutions, Court libraries, etc.

2. The Third Five-Year Plan, 1972–1976

During the Third Plan period similar objectives as those of the Second Plan will be pursued. The primary objective of maintaining the high level of justice and the safeguarding of the integrity and independence of the judiciary will remain the cornerstone of all efforts, accompanied by the continued updating of legislation and the means and methods for the treatment of offenders.

2.1 The Administration of Justice

The aim will be to maintain the independence of the Judiciary, to smooth out difficulties in the speedy administration of Justice, and to improve the means available for this purpose. This will be pursued through :

(*a*) The adoption of concrete measures for decentralizing the administration of Justice, which will mainly relieve the congestion of cases at the Supreme Court level.

(*b*) The introduction of legislation to amend the law of Evidence and Criminal Procedure in order to eliminate provisions which have a retarding influence on the administration of justice.

(*c*) The improvement of the means employed in the administration of justice, such as the enrichment of the libraries of the various Courts with legal textbooks and law reports.

(*d*) The simplification of the methods of keeping Court proceedings and legal records, for which an expert will be invited to advise and train suitable local personnel on new and more efficient methods.

(*e*) The continuation of the programme for the construction of new or the improvement of existing Court buildings.

2.2 The Treatment of Offenders and Correctional Institutions

The policy followed during the Second Plan on the treatment of offenders will be continued during the Third Plan. Increased emphasis will be given on the improvement of the methods and means of operation of the present institutions, as well as of the legislation governing treatment. The administrative and legal measures to be introduced follow closely the recommendations of the various committees established during the Second Plan. More analytically these are :—

Prisons and Young Offenders' Training Centre : In accordance with modern concepts, stress will continue to be placed on the corrective rather than the punitive aspects of reform in order to assist the social rehabilitation of released prisoners. Furthermore, efforts will be made so that young offenders be separated entirely from adult prisoners and to be given completely different treatment from other criminals.

Lambousa School : During the Third Plan period the following programmes will be pursued in order to further streamline the operations of the school and successfully reform the students :

(*a*) Improvement of the teaching methods and of vocational training by better programming and orientation towards present-day demands.

(*b*) Encouragement of training in social behaviour by out-of-school activities, participation in sports and other events.

(*c*) Giving greater emphasis on the psychological aspect of treatment.

(*d*) Improvement of the aftercare methods.

(*e*) Improvement of training and other facilities.

2.3 Other Measures

Law Commission : The question of setting up in due course a Law Commission will be considered. The functions of such a Commission would be to review the Laws of the Republic with a view to making recommendations as to their systematic development and reform, including the elimination of anomalies, the repeal of obsolete and unnecessary enactments, the reduction of the number of separate enactments and generally the simplification and modernization of the Law. However, until such a Commission is created, the present programme for the translation and codification of Laws will continue.

Criminological Research and Collection of Statistics : The objective in this field will be to correct existing shortcomings by improving the methods of collecting statistics and making surveys and through a study of the possibility of creating a suitable unit in which research may be carried out on crime, delinquency, the machinery of justice, the treatment of offenders, the effectiveness of different kinds of sentences, etc.

Public Records Office : It is proposed to proceed with the establishment of a Public Records Office which is considered essential for the preservation of important public documents and records.

2.4 Development Expenditures, 1972–1976

A total of £250,000 will be allocated to be utilized for the construction of new Court buildings and the improvement of existing ones, improvements to prisons and the Lambousa School, enrichment of the Law Library, etc. Expenditure on the day-to-day requirements of these services will continue to be incurred from the Ordinary Budget.

PART V

Physical Planning and the Location of Economic Activity and Social Services

CHAPTER 23

TOWN AND COUNTRY PLANNING

1. Introduction

Ever since Independence, Government policies and programmes relating to economic and social development have been formulated on the basis of proposals made by the Ministries and co-ordinated through the Planning Bureau to form one consistent plan, the Five-Year Plan, in accordance with overall and specific objectives elaborated by the Bureau. Policies and programmes relating to physical (or spatial) aspects of development, however, were co-ordinated on an *ad hoc* basis because of the absence of comprehensive physical development plans. There was, thus, inadequate integration of economic and physical planning policies. This deficiency was recognized in the Second Plan which stressed the need for the regulation of physical development so that physical considerations " may not evolve as bottlenecks in the process of optimum economic and social development ".

The integration of economic and physical plans ensures that economic policies are turned into local realities and that individual projects, town and regional plans (including rural development) are compatible with overall priorities.

Town and country physical planning comprises policies and plans relating, at a different level of aggregation, to :

(*a*) The settlement pattern, including the distribution of population employment, economic activity and the form of the transport system.

(*b*) The functional hierarchy of service centres including the distribution of public services, such as schools and health facilities.

(*c*) Social and environmental considerations including provisions for recreation and leisure and conservation.

(*d*) Physical planning standards.

Economic development planning embraces physical development considerations, such as the settlement pattern of the population, location of productive units, housing, transportation, the provision of social services, recreation and leisure facilities, etc. The successful incorporation of these considerations into the overall economic plan will not only ensure orderly spatial development, but it will also allow the attainment of optimum economic and social development through the adoption of the right locational policies and the physical standards indicated having regard to the stage of development.

2. Progress during the Second Plan, 1967–1971

The primary objective of the Second Plan in this field was to place town and country physical planning on a proper footing. But despite the progress made with preparatory work, the practical introduction and application of the new concepts was handicapped by the absence so far of comprehensive legislation.

2.1 The Town and Country Planning Law

So far certain matters relating to town and country planning have been tackled through the Streets and Buildings (Regulation) Law, which however, is considered to be inadequate for the regulation of physical development. A comprehensive Bill, the Town and Country Planning Bill, was accordingly prepared and submitted to the House of Representatives. The Bill has recently been enacted into Law.

2.2 The Island Physical Plan

The Town and Country Planning Law requires that an " Island Plan " should be prepared indicating " the Government's intentions relating to the use of immovable property in the Republic including the location of population, industry and commerce, the pattern of transportation and public services, the definition of areas of special social, historic, architectural or cultural interests or natural beauty or other matters of more than local importance ".

During the Second Plan period, the Department of Town Planning and Housing, in collaboration with the University of Nottingham, concluded the preparation of an Island-wide Physical Plan which is now being checked by the Planning Bureau against economic criteria. Because of the nature of physical planning, this Plan has a long-term perspective and provides a framework for spatial development up to the year 2,000. This thirty-year period was selected as representing that period of time over which prediction could be reasonably accurate, is long enough for action to have an appreciable effect and is at the same time related to the life of the buildings and other construction and installations with which the Plan is concerned. The Town and Country Planning Law requires an annual review of the Island Plan so as to take account of changes in the economic and social climate. Plans, whether economic or physical, must of necessity be flexible.

2.3 The Local Plans and Area Schemes

Another important step forward has been the preparation of the " Local Plans " for almost all towns, as well as the preparation of detailed " Area Schemes " for a number of priority areas, all with a time horizon of thirty years.

The Local Plans, which are flexible and of a general nature, present policies and propose solutions to serve as a framework for the structural development of the towns. More specifically, the purposes of these plans, according to the Law, " shall be to assist in securing orderly development in the interests of the health, amenity, convenience and general welfare of the community, to indicate the general principles upon which development in the area will be promoted and controlled, to assist in the selection of, or to define sites for particular purposes, whether by the carrying out of development thereon or otherwise, to protect features or areas of social historical or architectural importance, to safeguard routes for highways, pipelines and other services, and to indicate the stages by which development should be carried out ". Furthermore, the Law requires that " a Local Plan shall have regard to the aims and purposes of the Island Plan " and that a Local Plan shall " specify the population for which the plan is to make provision and shall indicate the proposed general use zones for land

and buildings and the communications necessary both to protect such zones and serve them ; the sites and access to proposed roads, public and other buildings and works, airfields, parks, pleasure grounds, nature reserves and open spaces " and " areas for use for agricultural, residential, industrial, commercial or other purposes ".

With regard to the Area Schemes, the Law provides for the preparation of detailed proposals for the development of any part of a Local Plan Area or for any other area. So far, Area Schemes have been prepared for Famagusta beach, Kimo Coast and the seafront in Kyrenia town, Ledra Street, Pedieos riverside (in Nicosia), Athalassa park, Troodos area, etc.

2.4 Town and Country Planning Schemes Implemented and Measures taken during the Second Plan

In the Second Plan a sum of £3 mln. was earmarked to be allocated for the execution of Town and Country Planning Schemes and other Municipal projects (including sewerage schemes). Due mainly to the delays in the commencement of work on the construction of sewerage schemes in Nicosia and Famagusta, the development expenditure realized amounted to £2.2. mln. (¹)

Realized development expenditures on town planning and municipal projects during the period of the Second Plan were almost four times more than those of the First Plan. The projects executed were mainly for the improvement of main road arteries and approach roads to the towns, the embellishment of towns, the construction of drainage schemes, etc. With regard to sewerage and drainage schemes techno-economic studies and plans were prepared for the towns of Nicosia and Famagusta and construction started in the first half of 1972.

With regard to country planning, mention should be made of two legal and administrative measures taken, *viz.* the introduction of large scale zoning of land use in certain areas and the amendment of the Foreshore Protection Law. Thus, zoning notices under the provisions of the Streets and Buildings (Regulation) Law have been issued for areas within the Kyrenia District in an effort to regulate development in the area and to preserve the character of the region. The zoning notices provide for the designation of land for tourist and other purposes and for the regulation of the height of buildings, density, minimum value, etc. Besides this elaborate zoning, more simple zoning provisions have been introduced for Nicosia, Limassol, Famagusta, Larnaca, Kyrenia and Paphos regulating the height and density of building within the affected areas.

In order to protect foreshore areas, the Foreshore Protection Law was amended to enable the appropriate authority to control or prohibit construction on or near the beaches.

Finally, preparatory work has been carried out in connection with the conservation of the natural environment. A Committee was set up in 1969 to organize activities and implement programmes on nature conservation in view of the declaration of 1970 by the Council of Europe as nature

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(¹) For expenditures on similar projects in rural areas reference is invited to the Chapter on Rural Development and other Chapters.

conservation year. The Cyprus Committee has ever since been actively engaged on various aspects of nature conservation, e.g., prevention of water and air pollution, revision of relevant legislation, preservation of local architecture, etc.

3. The Third Five-Year Plan, 1972–1976

3.1 Town and Country Planning Objectives

The Island Physical Plan is based on the long-term plan for economic and social development. They both comprise the same long-term objectives. However, whereas the main purpose of the economic plan is to maximise the overall welfare function, economic or social, of the country, the physical plan is concerned mainly with location and standards. Thus, the Island Plan provides for the optimum location of population, economic activity and service centres so that the country's overall objectives, i.e., the full utilization of the Island's productive resources, the attainment of a sound balance of payments position, balanced regional development and the improvement of social services may be successfully promoted. More specifically, the objectives of the Island Plan are :—

(*a*) The full utilization of the industrial, agricultural and tourist potential.

(*b*) The development of an efficient functional hierarchy of service centres.

(*c*) The achievement of an efficient transport network.

(*d*) The introduction of overall planning standards.

Out of these objectives, the first relates to two of the long-term economic objectives, i.e., the full utilization of the Island's productive resources and the attainment of a sound balance of payments position. The other three are designed to promote the economic objectives of improving the social services and regional development and ensuring that adequate services are provided to an acceptable standard.

On the other hand, the Local Plans are based on the provisions of the Island Plan and, therefore, incorporate the same objectives, though at a different level of aggregation and with differing priorities. More specifically, the objectives of the Local (Town) Plans are:—

(*a*) to provide for the size of population in accordance with the recommendations of the Island Plan ;

(*b*) to ensure that the future growth of each town is rational and orderly, particularly in relation to land use distribution ;

(*c*) to ensure the provision of a choice of areas for development, related to a carefully phased programme and to the costs involved ;

(*d*) to define areas requiring re-development or rehabilitation, to delineate environmental areas and to provide for the conservation of ancient monuments and areas of architectural or historic interest ;

(*e*) to provide for an efficient communications pattern serving each town and its hinterland, ensuring reasonable standards of accessibility within the region and those agricultural areas related to the town markets ;

(*f*) to facilitate efficient transportation and travel by providing a suitable hierarchy of roads, with adequate car parking facilities particularly in the central business district and other major traffic generating areas ;

(*g*) to provide a system of pedestrian ways and cycle tracks within and linking residential areas to schools, shops, open spaces and community facilities ;

(*h*) to ensure the adequate provision of land for housing to give a variety of types, density, cost and general environment, related to the proper provision of local community services ;

(*i*) to determine the extent and direction of expansion of the central business district and define locations for the establishment of future shopping centres ;

(*j*) to provide for the efficient servicing of shopping areas, both existing and future ;

(*k*) to provide for the rational distribution of industry, having regard to journey to work and environmental factors ;

(*l*) to provide adequate land for schools and school playgrounds indicating future sites requiring preservation and ensuring that schools are correctly located in relation to their catchment areas;

(*m*) to ensure the adequate provision of public open space and land for recreation and leisure facilities ; and

(*n*) to propose a comprehensive townscape and landscape policy.

3.2 Town and Country Planning Policies and Projects during the Third Plan

The Third Plan period will be a preparatory period for the testing of the objectives and strategies for the future and for the introduction of a modern system of town and country planning. The degree of progress to be achieved will depend largely upon the speed with which the various plans can be refined and approved and the relevant institutional arrangements required are made.

3.2.1 The Island Plan

The policy measures, programmes and projects to be implemented during the Third Plan will take into account, as far as possible, the requirements of the Island Plan, which will serve as the framework for such aspects of development as the movement of population between regions, the location of agricultural, industrial and tourist activites, the provision of social services, the standard of roads to be constructed, etc.

Whatever the final objectives of the Island Plan, it is inevitable that there will be an increased rate of population growth in the towns. For this reason, the Third Plan envisages an expanding programme for the improvement of housing conditions in the towns. The concentration of more people in urban areas will necessitate increased industrial activity and a consequential allocation of industrial land for this purpose in accordance with the local plans. This will also ensure the optimum development of industry, which requires maximum use of existing infrastructure, the development of close functional relationships between firms, a large pool of labour, and the availability of technical training facilities.

Despite the anticipated higher rates of population growth in urban areas, it is expected that during the Third Plan the number of commuters from rural areas will also increase. Such a development is not altogether unwelcome. In view of the short distances, it would not be unreasonable for someone to advocate a less urbanized pattern and a greater degree of commuting.

The attainment of a high rate of economic growth requires concentration of industrial activity. The attainment of overall planning standards on the other hand requires concentration of population. All public services can be provided more economically and to a higher standard in large settlements. However, since agriculture will continue to play a vital role in economic development, a sizeable proportion of the population cannot be urbanized. Extreme urbanization is not desirable also from the point of view of regional development. In order, therefore, to provide people in rural areas with proper social and other services [illegible] efficient functional hierarchy of service centres will be established. [illegible] will be pursued through the location of such services as schools, hosp[illegible] health centres, other Government regional functions, etc. and the p[illegible] an efficient road network as described in other Chapters of the [illegible]

3.2.2 Local (Town) Plans and Area Schemes

Lack of co-ordinated physical planning in the towns results [illegible] nal inefficiency, the main symptoms of which are traffic congesti[illegible] om-patibility of land uses, inconvenience, etc. With the completio[illegible] town plans and the enactment of new legislation, control and regulation of development will be enhanced and a new era will begin for proper development of Cyprus towns.

During the Third Plan period, Government development projects in towns, such as stadiums, educational institutions, recreation centres, roads, etc., will be implemented in accordance with the requirements of Local Plans.

Increased emphasis will be placed on such matters as the provision of parks and recreation facilities, the preservation of the environment and the problems of traffic movement. The most important recreation projects will be the establishment of an entertainment/recreation centre on the beach at Famagusta for the general public, the construction of a recreation centre on land to be reclaimed from the sea at Limassol, the embellishment and development of the area around the moat in Nicosia and the embellishment of the ancient site of Salamis in connection with the proposed Salamis Festival. Zoning regulations will be introduced to ensure that incompatible land uses such as manufacturing industry and tourist facilities may not develop in proximity to each other, and that the unique character of certain areas may be preserved.

Action will also be taken to improve car parking facilities in the towns. A special Committee has already been set up to examine ways and means of tackling this problem. In parallel, the Department of Town Planning and Housing is currently preparing plans for the provision of car parks in the main towns, including the type (multi-storey or otherwise) of parking facilities required. The parking problem is closely related with plans for the revitalization of the old business centres of towns. A Committee has been established in Nicosia to deal with the problems of the old town. In this connection, attention will be directed to the preservation of the town character in areas of architectural or historic interest.

The study and implementation of the above type of town planning projects will be co-ordinated with an expanded urban road development programme. Priority will be given to the improvement of urban approach roads connected with major highway projects and urban primary distributors. Attention will also be given to the application of traffic regulations in order to achieve a unified traffic system designed to increase the efficiency of the urban road network. Sush measures will be integrated with the control of on-street car parking and the establishment of pedestrian crossings.

The Area Schemes prepared during the Second Plan period provide an indication of the manner in which detailed planning measures can be used to put physical development in a specific area on a proper footing. During the Third Plan period, it is anticipated that at least a part of the Famagusta Scheme (i.e., the recreation/entertainment centre and very likely the car parks) will be completed. Another scheme, for the Troodos area, is being considered as part of the tourist development programme. Priority in the preparation and/or implementation of Area Schemes will be given to areas undergoing or threatened by rapid development and to areas about to be transformed by major development works.

Finally, attention will continue to be given to the provision of sewerage and drainage facilities. In Nicosia and Famagusta the first phase of the sewerage and drainage systems will be completed at an estimated cost of about £2.9 mln., and in Limassol techno-economic studies and plans will be prepared and construction may begin towards the latter part of the Plan period. These sewerage projects were initiated because of the danger to public health posed in densely populated areas and areas of impervious soil and the threat of beach pollution. In view of the rapid pace of tourist development in some parts of the Island and the possibility that a danger to public health may also exist in other towns, the Government, in co-operation with the Municipalities, will examine whether other towns and major rural centres require sewerage and drainage facilities.

3.2.3 Conservation of the Environment

During the Third Plan the Government will give serious consideration to the preservation and qualitative improvement of both the human and natural environment. The main measures planned include the continuation of the publicity programme for the enlightenment of the public, legislative provisions relating to nature conservation, the continuation of the cleanliness campaigns, the reorganization of refuse collection and disposal services, the prevention of soil erosion through the soil conservation and reforestation programmes and the establishment of parks and playgrounds for recreation.

3.3 Development Expenditures for Town Planning Schemes and Municipal Projects, 1972–1976

The amount of development expenditure allocated in the Plan for these projects is £3.5 mln. as follows :—

	£000's
1. Town and Country Planning Schemes (incl. Administration)	1,500
2. Municipal Projects (incl. Sewerage and Drainage Schemes)	2,000
Total	3,500

In view of the high level of land prices in urban areas and the high standards used, town planning schemes in general are very expensive projects. And despite the urgent need to improve the towns, the development process has to be gradual and in accordance with well defined priorities.

CHAPTER 24

REGIONAL DEVELOPMENT

1. Introduction

The more equitable distribution of economic activity and social services as between regions constitutes one of the long-term objectives of development planning in Cyprus. This objective is closely related to the long-term social objective of promoting a more equitable distribution of income among the population. It should not be implied from this, however, that regional development policies are motivated solely by the desire for social justice. Regional planning may also contribute to the economic objective of attaining a fuller utilization of the country's resources.

Because of statistical limitations, in the following paragraphs the six administrative Districts are treated as separate economic regions, except where the availability of statistical data permits otherwise.

2. The Second Five-Year Plan, 1967–1971

2.1 Objectives of the Second Plan

In the Second Plan it was recognized that it was not possible or economically justifiable to develop every region at the same pace, because regions do not possess the same comparative advantages and resources. Nevertheless, the policy was to " promote development so as to ensure an equitable distribution of income and services as between regions ". The long-term objective of Government's regional policy was " to exploit the potential of all regions and if possible eliminate income differentials between the regions ".

2.2 Progress with regard to Regional Development

The lack of proper statistical time series by region renders impossible a detailed evaluation of the progress made towards achieving the objective of a more equitable distribution of economic activity and income as between regions. Still, from an examination of a series of broad regional indicators the conclusion may be drawn that all geographical regions have benefited, in one way or another, from the overall economic and social progress achieved so far and especially during the Second Plan period.

2.2.1 Inter-regional Migration

Opportunities for employment usually play a significant role in population and labour mobility. Hence, the degree of inter-regional migration may be used as an indicator of the level of economic activity in various regions. As will be seen from Table 1, during the post-Second World War period there has been a tendency for urbanization. This tendency was more pronounced during the period 1946–1960, whereas during the years 1960–1971 the movement of population to the towns has been slower. The same applies in the case of movements of population as between Districts. During the period 1946–1960, Nicosia and Limassol Districts appear to have been gaining population at the expense of all other Districts. Ever since 1960, however, all Districts have more or less maintained their relative shares.

Distribution of Population by Location, 1946, 1960, 1966 and 1971

TABLE 1

	1946 Census	1960 Census	1966 Estim.	1971 Estim.	Annual Rate of Growth (%)			Percentage Shares			
					1946–60	1960–66	1966–71	1946	1960	1966	1971
NICOSIA :											
Urban	53,324	95,343	105,422	117,000	4.2	1.7	2.1	46.0	46.3	46.3	46.5
Rural	92,641	108,940	110,233	115,100	1.2	0.2	0.8	27.7	29.6	29.4	29.7
District	145,965	204,283	215,655	232,100	2.4	0.9	1.5	32.4	35.6	35.8	36.3
KYRENIA :											
Urban	2,916	3,441	3,793	5,000	1.2	1.7	5.7	2.5	1.7	1.7	2.0
Rural	25,258	27,505	27,457	28,700	0.7	0.0	0.9	7.6	7.5	7.3	7.4
District	28,174	30,946	31,250	33,700	0.7	0.2	1.5	6.2	5.4	5.2	5.3
FAMAGUSTA :											
Urban	16,194	34,752	39,136	43,600	5.6	2.0	2.2	14.0	16.9	17.2	17.4
Rural	78,280	79,557	81,661	84,600	0.1	0.5	0.7	23.4	21.7	21.8	21.8
District	94,474	114,309	120,797	128,200	1.4	1.0	1.2	21.0	19.9	20.1	20.1
LARNACA :											
Urban	14,772	19,807	20,667	21,600	2.1	0.7	0.9	12.8	9.6	9.1	8.6
Rural	37,417	38,812	39,730	40,200	0.2	0.4	0.3	11.2	10.6	10.6	10.4
District	52,189	58,619	60,387	61,800	0.8	0.5	0.5	11.6	10.2	10.0	9.7
LIMASSOL :											
Urban	22,799	43,561	48,022	52,300	4.7	1.7	1.7	19.7	21.1	21.1	20.8
Rural	52,622	63,701	65,292	67,500	1.4	0.4	0.7	15.7	17.3	17.5	17.4
District	75,421	107,262	113,314	119,800	2.5	1.0	1.1	16.8	18.7	18.8	18.7
PAPHOS :											
Urban	5,803	9,079	10,583	11,900	3.2	2.6	2.4	5.0	4.4	4.6	4.7
Rural	48,088	49,068	50,014	51,500	0.1	0.4	0.6	14.4	13.3	13.4	13.3
District	53,891	58,147	60,597	63,400	0.5	0.7	0.9	12.0	10.2	10.1	9.9
Total (Urban) ..	**115,808**	**205,983**	**227,623**	**251,400**	**4.2**	**1.7**	**2.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total (Rural) ..	**334,306**	**367,583**	**374,377**	**387,600**	**0.7**	**0.3**	**0.7**	**100.0**	**100.0**	**100.0**	**100.0**
Total Population ..	**450,114**	**573,566**	**602,000**	**639,000**	**1.7**	**0.8**	**1.2**	**100.0**	**100.0**	**100.0**	**100.0**

Source : Department of Statistics and Research, Planning Bureau.

From the above and other indications, the following conclusions may be drawn. During the 1960's all Districts have been developing in a more or less balanced manner and inter-District migration has been reduced. On the other hand, rural areas have not suffered depopulation at the rate experienced in the past, which could implicitly be interpreted as an indication of the improvement in the standard of living in these areas.

Studies undertaken in connection with the preparation of the Island Physical Plan suggest that the rate of urbanization has also decreased because of the development of commuting. It was accordingly estimated in 1969 that about forty thousand people or 17% of the economically active population (as defined in the survey) commuted to the towns for employment. Migration has been discouraged by the improvement of conditions in rural areas and the high land prices prevailing in the towns, while commuting has been facilitated by the road development programme. Many of the commuters appear to be farmers seeking employment in the towns during off-season periods. Finally, migration from the rural areas may have also been affected by the reduction of emigration.

The above picture hides certain features which become evident when the situation is examined at a less aggregated geographical level. In fact, there are areas which have experienced a reduction in population and others in which the growth of population has been relatively slower compared with the average population growth of the Island as a whole.

2.2.2 Unemployment Situation by District

Another indicator of the state of economic activity in the Districts is the rate of unemployment. The unemployment situation by District during the Second Plan period is presented in Table 2. As will be seen from this table, the total number of registered unemployed has been reduced by more than 18% between 1966 and 1971 or from 1.4% to 1.0% of the economically active population, respectively. This reduction has been observed in all Districts with the exception of the Larnaca District. As a percentage of the respective estimated economically active population, again with the exception of the Larnaca District, the unemployed persons, represented a smaller proportion in 1971 than in 1966 in all Districts.

This picture again hides certain variations when the situation is examined at a more disaggregated level. During the five-year period 1967–1971, the areas which persistently had a rate of registered unemployment above the average for the whole of the Island were the Nicosia Suburbs, Famagusta Town, Limassol Town, the areas of Episkopi, Evdhymou, Trimiklini, Omodhos, Troodos, Marathasa and Pitsilia, Larnaca Town, the Kiti, Athienou and Pyla areas, Paphos Town, the areas of Kouklia, Yeroskipos, Tsadha and Peyia. Moreover, during the period 1967–1971 more than 65% of the registered unemployed were residing in rural areas. It should be noted, however, that the percentage of unemployed in these regions was still very low throughout the period under review.

The above unemployment statistics should be used with caution, since it is possible that people unemployed in one region may have registered in another where opportunities for employment appeared to be better.

TABLE 2

Registered Unemployment by District, 1966–1971

District	1966		1967		1968		1969		1970		1971	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Nicosia	1265	36.3	935	32.7	973	30.7	887	32.8	925	32.9	1078	37.9
Kyrenia			102	3.6	96	3.0	75	2.8	79	2.8	72	2.5
Famagusta ..	736	21.1	583	20.4	687	21.6	535	19.8	478	17.0	400	14.1
Limassol ..	846	24.3	744	26.0	791	24.9	697	25.8	828	29.5	784	27.5
Larnaca ..	227	6.5	237	8.3	327	10.3	277	10.2	291	10.4	283	10.0
Paphos ..	410	11.8	256	9.0	300	9.5	232	8.6	209	7.4	229	8.0
Total ..	**3484**	**100.0**	**2857**	**100.0**	**3174**	**100.0**	**2703**	**100.0**	**2810**	**100.0**	**2846**	**100.0**

Source : Annual Reports, Ministry of Labour and Social Insurance, Planning Bureau.

2.2.3 Distribution of Economic Activity and Income by District

As in the case of the overall economy, the aim has been to develop the most productive sectors and to effect structural changes in an effort to attain, to the extent that this is possible, balanced growth and a degree of inter-industry dependence at the District level. However, because of the relatively small size of the regions, it may not be feasible for certain economic activities, such as manufacturing, to spearhead regional development.

A comprehensive picture of the size and the type of economic activity by District is given in Table 3, which shows the distribution of gainfully employed persons by sector and by District in 1967. From this table it would appear that, as in the case of the overall economy, agriculture is the most significant single sector from the point of view of employment in all Districts. Furthermore, the ranking of the remaining sectors on the basis of labour absorption is more or less identical to that of the economy as a whole. Thus, each District presents more or less the same pattern of economic activity as all Districts taken together. This, however, does not mean that each activity is equally distributed between these regions. For one thing, the size of each District is different. Moreover, the degree of resource endowment varies from one District to another. For example, in Nicosia District about one quarter of the gainfully employed were engaged in agriculture, whereas this percentage in the case of the Paphos District was about 64%. In the case of other Districts, the percentage varied within this range. The most industrialized District was Nicosia with 18.6% of its total labour force employed in manufacturing ; the least industrialized Districts were Kyrenia and Paphos.

A useful indicator of employment trends is provided in Table 4, which shows the estimated employment in establishments with ten persons and over by District in 1966 and 1971. The increase in gainful employment in the

TABLE 3

Gainfully Employed by Industry and Location, 1967(¹)

	Mining	Manu-facturing	Con-struction	Electricity, Gas and Water	Commerce	Transport	Other Services	Sub-total	Agricul-ture	Total
NICOSIA :										
Urban(²)	79	12,409	8,570	381	8,007	2,284	11,836	43 566	—	—
Rural	3,081	3,313	1,144	206	1,853	1,401	3,721	14,701	—	—
District	3,160	15,722	9,714	587	9,842	3,685	15,557	58,267	25,968	84,235
KYRENIA :										
Urban	—	298	186	22	216	66	618	1,406	—	—
Rural	144	498	401	18	463	462	849	2,835	—	—
District	144	796	587	40	679	528	1,467	4,241	6,541	10,782
FAMAGUSTA :										
Urban	—	2,472	2,884	122	2,805	1,042	4,014	13,339	—	—
Rural	62	2,620	1,105	56	1,447	920	2,317	8,527	—	—
District	62	5,092	3,989	178	4,252	1,962	6,331	21,866	21,770	43,636
LIMASSOL :										
Urban	10	4,345	4,576	64	3,309	920	3,842	17,066	—	—
Rural	537	1,383	1,853	79	855	1,042	3,917	9,666	—	—
District	547	5,728	6,429	143	4,164	1,962	7,759	26,732	20,892	47,624
LARNACA :										
Urban	36	1,523	878	92	1,183	600	1,378	5,690	—	—
Rural	633	1,278	483	39	571	496	3,100	6,600	—	—
District	669	2,801	1,361	131	1,754	1,096	4,478	12,290	7,224	19,514
PAPHOS :										
Urban	23	695	682	44	565	161	1,175	3,345	—	—
Rural	544	992	702	15	663	566	1,836	5,318	—	—
District	567	1,687	1,384	59	1,228	727	3,011	8,663	15,230	23,893
Total (Urban) ..	**148**	**21,742**	**17,776**	**725**	**16,085**	**5,073**	**22,863**	**84,412**	—	—
Total (Rural) ..	**5,001**	**10,084**	**5,688**	**413**	**5,834**	**4,887**	**15,740**	**47,647**	—	—
Total (District) ..	**5,149**	**31,826**	**23,464**	**1,138**	**21,919**	**9,960**	**38,603**	**132,059**	**97,625**	**229,684**

Source : Department of Town Planning and Housing, Planning Bureau.

(¹) Figures have been adjusted.
(²) Includes Nicosia Suburbs.

TABLE 4

Employment in Large Establishments by District, 1966 and 1971

	Whole Island		Nicosia				Kyrenia				Famagusta				Limassol				Larnaca				Paphos			
	1966	1971	1966		1971		1966		1971		1966		1971		1966		1971		1966		1971		1966		1971	
	No.	No.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1. Manufacturing ..	12138	17157	7231	59.6	9946	58.0	90	0.7	104	0.6	1565	12.9	2321	13.5	2555	21.1	3518	20.5	561	4.6	1037	6.1	136	1.1	231	1.3
2. Construction ..	8793	10843	3382	38.5	4556	42.0	31	0.4	237	2.2	1012	11.5	1524	14.1	3117	35.4	3017	27.8	711	8.1	1027	9.5	540	6.1	482	4.4
3. Electricity, Gas and Water(1) ..	2849	3680	1854	65.1	2182	59.3	32	1.1	49	1.3	265	9.3	293	8.0	310	10.9	566	15.4	317	11.1	475	12.9	71	2.5	115	3.1
4. Commerce ..	7614	8674	3372	44.3	4150	47.8	10	0.1	61	0.7	2193	28.8	2215	25.5	1247	16.4	1540	17.8	459	6.0	572	6.6	333	4.4	136	1.6
5. Transport, Storage and Communicat.	4796	5681	2360	49.2	3098	54.5	69	1.4	56	1.0	119	23.4	1297	22.9	769	16.0	768	13.5	433	9.0	387	6.8	46	1.0	75	1.3
6. Administration (Govt., Local Govt., B.M.A.) ..	10316	13166	2973	28.8	5670	43.1	184	1.8	220	1.7	1524	14.8	1243	9.4	2495	24.2	3560	27.0	2984	28.9	2069	15.7	156	1.5	404	3.1
7. Community Services ..	5953	7841	2887	48.5	3836	48.9	159	2.7	334	4.3	945	15.9	1195	15.3	981	16.5	1294	16.5	449	7.5	576	7.3	532	8.9	606	7.7
8. Other Services (Business Recreation, Personal) ..	1611	2470	858	53.2	1206	48.8	30	1.9	236	9.5	259	16.1	503	20.4	434	26.9	482	19.5	19	1.2	31	1.3	11	0.7	12	0.5
Total ..	**54070**	**69512**	**24917**	**46.1**	**34644**	**49.8**	**605**	**1.1**	**1297**	**1.9**	**8882**	**16.4**	**10591**	**15.2**	**11908**	**22.0**	**14745**	**21.2**	**5933**	**11.0**	**6174**	**8.9**	**1825**	**3.4**	**2061**	**3.0**

Source : Island-wide Manpower Surveys, Ministry of Labour and Social Insurance, Planning Bureau.

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(1) The definition differs from that used elsewhere in the Plan.

establishments covered in the table amounted to about 15,240. Nicosia District had 50% of employment growth in large establishments in all sectors except utilities (electricity, gas etc.), and other services, and the three largest Districts, Nicosia, Famagusta and Limassol took 92% of the total growth in such establishments. This suggests that the three smallest Districts have not been able to attract larger-sized firms. It should be noted that since 1960 there has been a steady shift from small to large establishments.

The geographical distribution of services related to tourist development is especially significant for regional development policy, because in many areas the development of tourist services appears to be the only alternative. Table 5 shows that Famagusta and Limassol have improved their relative position in the distribution of hotel beds during the period 1967–1971. The bulk of the hotel capacity now under construction is taken up by Famagusta. It is worth noting, however, that all Districts, but especially Larnaca and Paphos, are soon expected to increase substantially their hotel capacity.

Distribution of Hotel Capacity, 1966 and 1971

TABLE 5

Region	1966		1971		Beds under Construction (end of 1971)	
	No. of Beds	% to Total	No. of Beds	% to Total	No. of Beds	% to Total
Nicosia	1,398	23.2	2,134	22.7	204	3.6
Famagusta	824	13.7	2,545	27.0	4,183	74.7
Limassol	534	8.9	1,011	10.7	365	6.5
Kyrenia	514	8.5	779	8.3	262	4.7
Paphos	122	2.0	117	1.2	172	3.1
Larnaca	71	1.2	66	0.7	228	4.1
Hill Resorts	2,274	37.8	2,217	23.6	184	3.3
Village Hotels	283	4.7	544	5.8		
Total	**6,020**	**100.0**	**9,413**	**100.0**	**5,598**	**100.0**

Source : Cyprus Tourist Organization, Annual Report.

The relatively lower overall productivity of agriculture suggests that in Districts which are heavily dependent on agricultural employment, a relatively larger proportion of the employed population may have lower incomes. Disparities in incomes are likely to be especially marked in regions which do not have access to alternative employment and where irrigation land is scarce. Apart from the availability of soil and water resources, the natural endowment influences incomes in other ways. Mountainous topography, isolation and poor communications are also factors affecting income differentials. In a region which is not easily accessible and which is otherwise lacking in marketing organization, the prices of agricultural products, and especially perishables, can be lower than those obtaining in areas with a well organized market and which are nearer to the main consuming centres. Thus, even when the products or the services rendered are similar, there may still be disparities in incomes from one region to another.

Some indication of regional differences in wages and salaries may be obtained from Table 6, which refers to 1969. In the manufacturing sector the highest average wages were paid in the Districts of Limassol and Nicosia and the lowest in the Districts of Larnaca and Paphos. The average wage level in the construction and transport sectors was also higher in the Districts of Nicosia and Limassol. It should be realized, however, that differences in average wages and salaries may lead to erroneous conclusions. Even when there is equal pay for equal work averages would differ, if in one region there are relatively more skilled workers than in another.

Average Level of Wages and Salaries by District and Sector, 1969 (1)

TABLE 6

District / Sector	Nicosia	Kyrenia	F/sta	L/ssol	Larnaca	Paphos	Overall
1. Mining & Quarrying	39	25	43	39	39	56	41
2. Manufacturing ..	28	27	24	34	22	21	28
3. Electricity, Gas, Water	38	24	32	33	30	20	33
4. Construction ..	32	28	25	31	26	19	30
5. Transport, Storage & Communication ..	52	43	32	49	42	40	46
6. Commerce & Banking	40	23	27	32	39	25	34
7. Other Services ..	34	29	29	27	19	16	33
8. Government & Community Institutions	39	23	29	32	33	20	31
All Sectors ..	**36**	**28**	**27**	**33**	**30**	**29**	**33**

Source : Global Census of Employers and Employed Labour Force prepared by the Ministry of Labour and Social Insurance.

2.2.4 Social and Other Conditions in the Districts

The level of individual or family income is an important determinant of economic welfare. Some services, however, cannot be provided by the individual himself and must be provided by the Community or the State. These include social services, communications and utilities, etc. In Cyprus, there has been an overall improvement in the provision of such services, but some Districts have benefited more than others (Tables 7 and 8). This may be the result of a variety of factors but it also reflects differences in the settlement pattern of the Districts. For other conditions of a social nature, the reader is referred to individual Chapters, e.g. housing, transport and communication.

2.2.5 Summary of Progress Attained during the Second Plan

As may be assessed from the foregoing exposition, the overall picture which emerges is one of relative balanced development on a broad regional basis. Given the small size of the Island, inter-regional migration and commuting have enabled a more equitable distribution of economic welfare as between regions. This has also been made possible through the provision of public utilities and other services mainly on social grounds.

On the other hand, certain economic activities and indeed some of the most remunerative activities, have not been equitably distributed. This could not have been otherwise since all areas do not possess the same-

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(1) Refers to wages and salaries paid in March, 1969, to persons covered by the Termination of Employment Law, i.e., persons earning less than £87 per month.

TABLE 7

Provision of Health and Educational Services in the Districts

	Health							Education			
	Pop. / Doctor Ratio		Pop. / Dentist Ratio		Hospital Beds per '000 Pop.			Primary		Secondary	
					Public Hospitals		Public and Private	Pupil/ Teacher Ratio		Pupil/ Teacher Ratio	
	1966	1971	1966	1971	1966	1971	1971	1966–1967	1971–1972	1966–1967	1971–1972
Nicosia ..	823	756	2,294	2,321	2.16	2.24	5.52	35.0	29.5	23.2	20.6
Kyrenia ..	2,604	4,213	3,472	5,616	1.31	1.31	1.31	31.2	27.6	21.9	18.2
Famagusta ..	1,701	1,424	5,252	4,579	1.03	1.03	2.58	35.6	30.5	26.4	21.5
Limassol ..	1,770	1,460	4,532	4.103	1.04	1.11	3.63	34.8	30.9	24.5	24.2
Larnaca ..	2,875	2,687	6,038	5.150	1.40	1.25	1.56	35.1	30.8	19.6	18,3
Paphos ..	2,244	1,981	3,787	7.044	1.27	1.37	1.93	32.2	27.0	21.7	19.1
Whole Island	**1,317**	**1,179**	**3,401**	**3,473**	**1.51**	**1.55**	**3.62**	**34.6**	**29.8**	**23.7**	**21.0**

Source : Planning Bureau.

TABLE 8

Communications and Other Public Utilities by District

District	Villages with telephone % 1970	Roads and Streets(1)		Electricity				Domestic Water Supplies	
		Villages with asphalted access roads 1971	Villages with mainly asphalted streets 1970	Consumers connected		Villages with electricity		Villages with house-to-house water supplies	
				(No.)	(No.)	(%)	(%)	(%)	(%)
				1966	1971	1966	1971	1966	1971
Nicosia ..	76	67	37	49,528	65,604	66	89	48	64
Kyrenia ..	79	72		5,190	7,184	60	85	45	77
Famagusta	73	80	55	23,029	32,884	57	80	59	74
Limassol ..	83	46	41	24,086	34,483	47	92	60	76
Larnaca ..	86	78	86	10,998	14,575	54	85	44	66
Paphos ..	70	61	16	6,612	12,376	36	67	36	45
Whole Island ..	**77**	**65**	**41**	**119,443**	**167,106**	**50**	**82**	**49**	**65**

Source : Planning Bureau.

advantages and resources. However, persistent efforts were made to exploit the comparative advantages of each region. As a result, the broad regions have managed to maintain their relative share as far as overall population distribution is concerned. The movement of population which took place from a number of areas was directed mainly to the nearest towns and/or larger village centres.

Despite this development, there appears to be a need for a more systematic approach to the question of regional development. As stated elsewhere, during the Second Plan period considerable time and effort were devoted to the preparation of the Island Physical Plan, which aims primarily towards providing " a framework within which locational policies for the economic and social development of the Island may be made ". With regard to regional development, the Island Plan attempted to study the development potentialities of the various regions and to plan the settlement pattern (population, employment, transport system, etc.), the functional hierarchy of service centres (schools, health facitilies, etc.), the social and environmental requirements (recreation, etc.). Though this plan has a long-term time horizon, it could be used as the frame for designing medium-term plans, programmes and policy measures geared towards attaining set regional development goals.

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(1) Estimates.

3. The Third Five-Year Plan, 1972–1976

3.1 Objectives of the Plan

As in the case of the Second Plan, the objectives of the Third Plan will be—

(*a*) to exploit as far as possible and to the extent that this is justifiable the development advantages offered by each region ;

(*b*) to take the necessary measures to cushion the repercussions of depopulation ; and

(*c*) to provide, through the development of a functional hierarchy of service centres, improved public services in all regions.

3.2 Prospects and Projects during the Third Plan

The prospects for the development of the various regions obviously differ. Though there is a need, for the sake of interdependence of economic activity, to encourage the development of many sectors in all broad regions, it should not be expected that all Districts will be developed on exactly the same pattern. Cyprus is relatively small and it cannot afford to utilize its resources in a widely scattered manner, especially during the early stages of development.

In the following paragraphs, a general account is given of some of the development prospects of the various Districts. In the Third Plan every effort will be made to promote the exploitation of these prospects. In addition, the programme for the provision and improvement of social services will continue, within the general framework of the Island Physical Plan.

3.2.1 Nicosia District

Most of the villages in the District are within reasonable travelling distance from Nicosia and Morphou, and consequently many rural areas may be able to benefit from the development of these two important settlements. In the manufacturing sector, Nicosia has been attracting a large proportion of new employment, and the town is also well placed to benefit from the expansion of commerce and banking and from the increasing activity of Government Services and other Public Authorities. The District as a whole has limited potential for tourist development, but the town itself is expected to increase its hotel capacity, mainly for business visitors. Improvements in the road network, such as the improvement of the Nicosia-Palekhori road and the construction of the new Nicosia-Morphou road, will help spread the benefits of development.

In the agricultural sector, the main problem will be the conservation of the Western Messaoria aquifer. Because of overpumping, there is a danger that the aquifer may be depleted or become saline in the non too distant future. In view of this serious situation, pumping control measures have been already introduced, and various irrigation projects including the water use improvement scheme have been implemented. In addition, during the Third Plan period the Massari dam will be completed, the purpose of which is mainly to recharge the aquifer. But most importantly, consideration is currently being given to the diversion of water from other areas with water surpluses to the Morphou area besides the extension of irrigation in these areas. A feasibility study on the Morphou–Tylliria irrigation project is currently being conducted with assistance from the U.N. Development Programme, and it is anticipated that implementation of the first phase of the project will begin during the Third Plan period. This will be combined with other irrigation and water use improvement measures designed to solve the problem on a more lasting basis.

Another major irrigation project in this District, which will be completed during the period of the Third Plan, is the Palekhori Dam, which will enable the irrigation of about 530 donums. Land consolidation is also in the process of implementation in the area to be irrigated by the dam. The upland areas of the District will also be assisted through land improvement programmes and a variety of other agricultural schemes.

A large proportion of employment in mining is concentrated in the Xeros area of the Nicosia District, and consequently this area will be adversely affected by the anticipated decline in mining operations. The Government is concerned about the future of this area, and a number of projects are currently being studied with a view to alleviating the situation which may arise.

3.2.2 Kyrenia District

The future development of the Kyrenia District will be based mainly on the growth of tourism and the improvement of communications to Nicosia. The exploitation of Kyrenia's tourist potential on a large scale has already started. During the Third Plan, tourist development will be further encouraged by the completion of the new Nicosia–Kyrenia road. The envisaged improvement of the eastern coastal road to Kyrenia will encourage tourist development in this part of the District. Because of the proximity of a large area of the Kyrenia District to Nicosia, a significant proportion of the population already commutes to the capital for work. Consequently, this region will benefit both from the expansion of employment opportunities in Nicosia, and the improved accessibility resulting from road development projects.

The tourist potential of Kyrenia is already well-known. It is anticipated that during the Third Plan, there will be a large expansion of tourist facilities in the area and that Kyrenia will attract an increasing proportion of new hotel capacity. Although a number of large projects are planned, they may not all be completed by the end of 1976. The rapid development of tourism will also necessitate a rapid expansion of construction activity in the coastal area.

Because of the good prospects for the development of tourism in the coastal area of Kyrenia, it would appear desirable to discourage the development of manufacturing in that part of the District. During 1971 zoning restrictions and new building regulations were introduced north of the Pentadaktylos range, because of the need to preserve the character of the area and reserve certain areas for tourist development.

In the agricultural sector, the prospects for the expansion of irrigation are limited because the District has only moderate water or land potentialities. However, there may be scope for exploiting the aquifers more fully. To enable agricultural incomes to be stepped up in the dry-farming areas of the District, the Government has introduced the mixed farming project.

3.2.3 Famagusta District

The future development of the District and especially of the town and the coastal areas will mainly depend on the continued development of tourism and the manufacturing sector. It is anticipated that considerable development of tourist facilities will take place along the coast from Ayia Napa to Boghaz. The number of hotel beds in this area are expected to increase from 2,299 in 1971 to about 8,000 in 1976(¹). Tourism will be further encouraged by the anticipated construction of a marina. As in the case of Kyrenia, zoning regulations on land use will be introduced in the most critical areas threatened by uncontrolled development. Additional water supplies will be provided to serve, *inter alia*, the tourist needs.

The establishment of an industrial estate near the town, now under construction, will encourage the development of manufacturing. The same is true of the proposed port-based free zone industrial estate. It is already evident that manufacturing will develop at a rapid pace in the town of Famagusta. The large rural population of the District, assisted by the completion of the Famagusta–Rizokarpasso road and the general improvement of village roads will be able to benefit from the growth of employment opportunities in Famagusta. In addition, the Government is considering the feasibility of radically improving the Nicosia–Famagusta road.

The main problem in the field of agricultural development concerns the conservation of the South East Messaoria aquifer. In an effort to improve the situation, the Government has constructed artificial replenishment works and has introduced the water use improvement project in the area, but it appears that more drastic measures are necessary.

To raise agricultural incomes in dry-farmed areas the Government has introduced the mixed farming project in the Karpass Peninsula and the Messaoria Plain. This project is now also being introduced in the Kokkinochoria area, which has been affected by the depletion of the groundwater resources. In addition, many schemes have been introduced in the past and will continue (e.g. improved tobacco cultivation, new cereal varieties, encouragement of fodder crop production, etc.) for the improvement of yields and raising farmers' incomes in dry-farmed areas. More viable farm units are, however, necessary and farmers will be encouraged and assisted to establish such units during the Third Plan period.

(¹) New classification.

3.2.4 Limassol District

The establishment of an industrial estate near the town and the anticipated completion of the new port will enable Limassol to continue to attract a high proportion of new manufacturing activity. There are also good prospects for tourist development along the eastern shoreline, where an increase in hotel capacity is anticipated. In the hill resorts of Limassol (and Nicosia) the prospects for tourism have not been equally good. However, the tourist facilities which are planned at Troodos and the proposed improvements to the Troodos road network may help revitalise the industry. The introduction of the Workers Holiday Scheme will provide further assistance to the hill resorts.

The improvement of the Limassol–Troodos road and of other roads will help spread the benefits of increased economic activity in the town to more areas.

There are also good prospects for the expansion of irrigation. During the Third Plan, the distribution system of the Yermasoyia dam will be completed. To the north of the plain, the vine growing areas of the District will benefit from the vine replanting scheme, which aims at raising yields and improving the quality of vine production by the systematic replacement of senile plants with new and better varieties. In addition, a substantial amount of money will be spent on the improvement of access and farm roads in these villages.

3.2.5 Larnaca District

Increased economic activity is also expected to accrue to Larnaca following the completion of the new port, the marina and the industrial estate. Employment opportunities have also been created with the building of the oil refinery. In addition, there are prospects for the establishment of tourist facilities in the area. Because various parts of the District have easy access to the towns of Nicosia, Limassol and Famagusta, the population in these rural areas may also benefit from the development of these three towns. During the Third Plan, communications between Nicosia and Larnaca will be improved.

The District of Larnaca has large areas of relatively barren land, which restrict the prospects for agricultural development. There are, however, good prospects for the further development of animal husbandry in the villages closest to Nicosia and Larnaca towns. This development will be encouraged through the establishment of livestock areas.

During the Third Plan, the Lefkara dam, a project primarily designed to meet the demand for domestic water in Famagusta and Larnaca, will be completed. It is envisaged that the project will make possible eventually the irrigation of 5,000 donums in the Lefkara area.

3.2.6 Paphos District

Development in the Paphos District will be spearheaded by agriculture and tourism. In the field of agriculture, it is estimated that there are enough unexploited resources of surface and groundwater which could be sufficient for the irrigation of a considerable number of additional donums of land in the coastal plain and the Polis area. Such a large-scale extension of irrigation would provide an economic stimulus to the whole District. Despite strenuous efforts to commence work on the exploitation of this water potential as early as possible, it is unlikely that all the new irrigation schemes envisaged will be completed during the Third Plan period. Farmers in this District will in the meantime benefit from a variety of other Government projects, such as the vine replanting project, the encouragement of early vegetables, land consolidation and other projects.

With regard to tourism, it is anticipated that during the Third Plan period there will be a substantial increase in both hotel capacity and tourist activity in the coastal area from Lara to the Curium site. The Government will encourage the development of tourism in the District through long-term low interest credits and through the lease of Government land to enterprises intending to build hotels in this region. The planned improvements in the road network, such as the Ktima-Polis road and other road projects, will also help encourage tourist development.

Communications will also be improved with the provision of port facilities and the possible establishment of an internal air link between Nicosia and Paphos. The Plan provides for the building of a deep water berth together with a marina at Paphos and the improvement of the old airfield at Yeroskipou.

With regard to the development of other sectors and especially manufacturing, the District appears to be at a competitive disadvantage, because of its distance from major consuming centres. However, during the period of the Plan a small industrial estate will be established which is also necessary for town planning purposes.

CHAPTER 25

RURAL DEVELOPMENT

1. Introduction

As stated in the Second Plan, historically, socially and administratively, the village is still the focal point of rural life in Cyprus. About 60% of the Island's population is residing in rural areas. Although the town population has been growing faster than that of rural areas, studies of population trends suggest that a large proportion of total population will continue to live in villages. Rural development programmes will, therefore, continue to be of considerable importance in the foreseeable future.

2. Progress during the Second Plan, 1967–1971

2.1 Objectives and Strategy of the Second Plan

The objective of the Second Plan was to promote the improvement of economic and social conditions in the countryside. For the attainment of this broad overall objective, the general strategy adopted encompassed: (*a*) the raising of the level of incomes in rural areas ; (*b*) the improvement of the village itself ; (*c*) the provision or improvement of utilities, communications and social services.

Given that rural areas are primarily agricultural areas, a large number of projects, programmes and policy measures were designed to promote the development of water resources and agriculture. The improvement of the village itself was to be pursued through a series of projects conventionally classified under " rural development ". Finally, as regards social services, utilities and communications, the Plan envisaged the implementation of a variety of projects to be undertaken by Government Departments and Semi-Government Organizations.

Although it is impossible to quantify in a few indicators the progress achieved, the following exposition of developments in various fields directly related to rural areas will suffice to show that living conditions in these areas were substantially improved during the Second Plan period.

2.2 Rural Incomes

The rural population has benefited from the overall economic expansion which took place during the past decade, and especially from the progress achieved during the Second Plan period. Economic development has increased employment opportunities outside the traditional farming sector. Small holders in particular supplement their income from agriculture with income from additional employment in other sectors. Moreover, many people residing in rural areas have taken up permanent employment in the towns, thus relieving the pressure on agricultural land. Because productivity in other sectors is generally higher than in agriculture, an appreciable proportion of the rural population must now enjoy a higher level of income. Commuting to the towns and other places for employment has thus spread the benefits from the expansion of the non-agricultural sectors to the rural areas. These tendencies have also enabled a reduction in the degree of underemployment among the agricultural labour force.

The best single indicator of the improvement in farmers' incomes (and by implication of the incomes of a large proportion of the rural population) available, is the level of value added per person employed (or productivity) in agriculture. During the Second Plan period, productivity in agriculture increased remarkably, as a result of the rapid growth of production and the decrease in the labour force. At constant 1966 prices value added per person employed increased from £271 in 1966 to £422 in 1971, an increase of about 56%, which is much higher than the productivity increase in the remaining sectors. This suggests that farmers' incomes increased appreciably during the five-year period and that progress was also made towards reducing the disparities in incomes between rural and urban areas.

A significant contribution to the achievement of higher productivity in agriculture was made by the agricultural development programme of the Government, which is described in the Chapter on Agriculture. Furthermore, the Government has done much to increase and stabilize farmers' incomes, through subsidies, etc., especially in the case of those activities which are considered to be less remunerative.

2.3 Improvement of Villages

During the Second Plan, further progress was made towards the goal of improving the villages themselves. Expenditure under "Rural Development" reached the figure of £1,968,600 and exceeded the target allocation of £1,840,000. The type of projects undertaken include such schemes as the resiting of villages, anti-flood works, assistance to Rural Municipalities and Improvement Boards, improvement of village streets, the construction of farm roads and public buildings, village street lighting and other public works.

Government's policy in resiting villages has been to move and re-build villages threatened by landslides. However, evey effort was made to ensure that living conditions in the new villages are improved, and the opportunity was taken to locate the new villages on sites advantageous from the point of view of accessibility and proximity to agricultural land. Three villages, namely Korphi, Pano Kividhes and Mathikoloni were resited and action was initiated on the resiting of six other villages in the Districts of Limassol and Paphos. During this period about 400 new houses were built or are under construction in connection with these resiting schemes.

In addition to trunk roads and other road development schemes, described in the Chapter on Transport and Communication, the Government implemented a number of other projects for the improvement of roads linking villages as well as village street improvement projects. It is estimated that in 1970 over 40% of the villages had mainly asphalted streets. The progress achieved in the Limassol District is indicative ; in 1970, 40% of the villages had mainly asphalted streets compared with 21% in 1966.

Because of the difficulties faced by farmers in gaining access to agricultural land, the Government introduced an expanded contributory programme for the construction of farm roads and between 1966 and 1971 a large number of farm roads were constructed. To improve accessibility and reduce transport costs, a large number of farm roads were constructed in the vine growing areas of Paphos, Limassol and Nicosia at Government expense.

Assistance was also provided for the erection of public buildings. Notable progress was made with the erection of slaughterhouses. As a result of this programme about 47% of the Greek and mixed villages had slaughterhouses in 1971. The Government also provided assistance for the construction of public markets, meat markets, public latrines and administrative offices.

Funds under rural development were also made available for the construction of drainage and anti-flood works in villages suffering from flooding and for a variety of minor village works.

2.4 Provision and Improvement of Utilities, Communications and Social Services

2.4.1 Utilities and Communication Services

The provision of utilities has improved residential conditions, while the development of other communication services together with an improved road network has reduced the degree of isolation and improved the economic and social environment of the villages. As shown in Table 1, considerable progress was made with regard to the provision of village domestic water supplies, rural electrification and the connection of villages to the telephone communication system.

Domestic Water Supplies, Electricity and Telephone Services in Villages, 1966 and 1971

TABLE 1

	1966		1971	
	No. of Villages	% of Rural Population	No. of Villages	% of Rural Population
1. Domestic Water Supplies :				
(*a*) House-to-house Supplies	308	70%	408	85%
(*b*) Satisfactory Water Supplies (defined as 20 gals./head/day)	538	91%	577	93%
2. Electricity Supply	316	70%	512	92%
3. Telephone Services	447	n.a.	507	n.a.

Source : Planning Bureau.

Rural postal services have improved. During the Second Plan period daily delivery services were extended to another 59 villages, so that in 1971 about 92% of the villages had a daily delivery service. In addition, home delivery services were introduced in rural areas with the initiation of house-to-house delivery in two large villages.

The expanded road development programme undertaken during the Second Plan period resulted in the improvement of trunk roads, village access roads and roads linking villages, and consequently journey time from the villages has been reduced.

2.4.2 Education and Cultural Services

Pre-elementary Education : Facilities for pre-elementary education are mainly concentrated in urban areas. It is estimated that during the school year 1971/72, 20–25% of the pre-elementary schools and pupils were located in rural areas.

Primary Education : The problem with primary education in rural areas is that educational standards are in many cases lower than in the towns because of the large number of one- and two-teacher schools, where one or two teachers have to teach simultaneously children of different classes and ages. In the 1971/72 school year there were 245 such schools (representing 45% of the total number of primary schools in Cyprus), all of which were located in rural areas. The Government has recognized this problem and has encouraged the consolidation of small village schools. Between the school years 1966/67 and 1971/72 eleven schools were amalgamated.

Government assists village School Committees with low interest long-term loan finance for the erection of school buildings and in the case of villages of poor financial standing subsidies are also provided for this purpose.

Secondary Education : As regards secondary education, rural areas are well served by 22 centrally located schools in large villages. Three new rural gymnasia were built during the Second Plan period at Paralimni, Lysi and Kythrea. These schools are three-class (first cycle) gymnasia. The relatively small number of pupils in these areas makes the provision of specialized facilities required in the second cycle both difficult and expensive.

Cultural Development : During the Second Plan period efforts were made to introduce more cultural activities in rural areas. In particular, note should be taken of the State Theatre's performances in major rural centres. The introduction of a mobile library service and the improvement of television and radio reception in Paphos District and other rural areas may also be considered to have contributed to cultural development.

Studies of Rural Problems : During the period under review, a number of studies of rural problems was undertaken. The Centre for Social Research is at present carrying out a study of urbanization and its consequences, and the Department of Social Welfare Services (in association with the University of Swansea) has carried out surveys of community needs. Other problems have been studied in connection with the preparation of the Island Plan.

2.4.3 Health and Welfare Services

Rural Health Services : In the Second Plan rural health services were considered to be basically unsatisfactory because of the " prevailing acute staff shortages and the fact that these centres (rural health centres) are not equipped with X-ray laboratory and blood transfusion facilities " which are considered indispensable for proper curative treatment. A World Health Organization expert was invited to examine methods of improving these services and a report was prepared. On the basis of this report the Government has decided to establish two new Rural Health Centres at Polis and Morphou. The outcome of these pilot schemes will enable the Government to determine the type of reorganization needed in the rural health services. During 1971, the Ministry of Health also acquired a mobile dental unit which will be used mainly for the improvement of the rural dental services.

Environmental Health Services : Environmental health services in rural areas are considered to be satisfactory, although there are problems with the disposal of refuse and animal manure. Note should be taken in this connection of the campaign for the eradication of echinococciasis (hydatid disease) launched during the Second Plan period.

Home Economics Service : The Home Economics Service was introduced in 1965 in order to improve the dietary standards, health, family finances and human relations of the rural population. In 1971, 40 villages were served by the Home Economics Officers of the Department of Agriculture.

Welfare Services : The Department of Social Welfare has endeavoured to improve the institutional structure and organization of welfare services in both urban and rural areas. Forty-seven Community Welfare Councils were established in rural areas in order to identify social problems and co-ordinate the provision of welfare facilities and services. In 1971, there were 29 pre-school institutions (nurseries and kindergartens) located in rural areas under the supervision of the Department of Welfare Services. There were also 16 youth clubs in rural centres, which were run by the communities with financial support and advice from the Government.

2.4.4 Housing

Although there are no statistics available regarding the improvement in housing conditions during the Second Plan period, a Household Survey, carried out by the Department of Statistics and Research in 1971, provides a clear indication of the considerable improvement in housing standards in rural areas during the period 1960–1971. For further details on the housing situation in general and in rural areas in particular reference is invited to the Chapter on Housing.

2.4.5 Village Size and the Provision of Facilities and Services

From various surveys undertaken during the Second Plan period it became evident that the larger villages generally have more facilities than the smaller villages. Nevertheless, the general impression is one of a large number of villages of all sizes having a broad range of facilities and services.

In connection with this apparent relationship between population size and the provision of facilities it is relevant to examine whether villages are becoming larger, for this would suggest that village communities would be capable of supporting a higher standard of services. A survey undertaken in 1969 by the Department of Town Planning and Housing provides some indication of village population trends. Information provided by this survey suggests that the average size of the Cyprus village grew from about 600 residents in 1960 to 700 in 1969. This increase appears to have resulted from the growth of villages located within a reasonable distance from the towns or in prosperous agricultural areas. It would appear that the averag size of village is getting larger, while in small villages, which cannot provide adequate facilities, there is a tendency for the population to decrease.

3. The Third Five-Year Plan

3.1 Long-term Objectives and Development Strategy

The long-term objective for rural development is the improvement of economic and social conditions in the countryside in line with the general aim of regional development, which is the " more equitable distribution of income and services between regions". Rural development is considered to be a special case of regional development, and should therefore be viewed as encompassing a broader geographical area than the village.

A consistent long-term strategy on spatial, regional and rural development planning presupposes the designing of an optimum future settlement pattern and, hence, the adoption of policies for the distribution of population, the location of economic activity and the provision of services. A general framework for long-term rural development planning has already been drawn up within the exercise undertaken for the Island Physical Plan. This plan will be properly elaborated, and will form, *inter alia*, the basis for the preparation of more concrete medium-term rural development plans.

3.2 Objectives of the Third Plan

As a special case of regional development, rural development has the same objectives (see Chapter on Regional Development). Although the objectives will be the same, they will apply to less aggregated geographical areas.

3.2.1 Economic Activity

As already mentioned, the most important single economic activity in rural areas is the broad agricultural sector. Certain rural areas possess also locational advantages for other types of activity, especially tourism. The development of agriculture and tourism are among the priorities of the Third Plan. Hence, the anticipated growth of these sectors and the projects and programmes to be undertaken in this connection will promote further economic activity in rural areas. In addition, given the small distances in Cyprus and the envisaged expanded road development programme, the anticipated continuation of a high rate of growth in almost all sectors is bound to spread the benefits of increased welfare to the countryside.

3.2.2 Improvement of Villages

During the Third Plan, the execution of projects for the improvement of villages will be continued, but an effort will be made to relate this programme to the principles already described. However, measures for the improvement of conditions in villages suffering from depopulation will continue and allowance will be made for the special circumstances of poor and small villages. In connection with the attainment of a more rational settlement pattern, rural centres will be identified and special attention will be given to their needs. The impending establishment of overall planning standards will also contribute to the improvement of living conditions in villages. Development expenditure under "Rural Development" will be considerably stepped up during the Third Plan period (Table 2).

TABLE 2

Rural Development Expenditures, 1972–1976

	£000's
Resiting of Villages	850.0
Village Roads	250.0
Village Streets and Assistance to Rural Municipalities and Improvement Boards	1,100.0
Farm Roads	520.0
Other (including anti-flood works, public buildings, etc.) . .	939.0
Total	**3,659.0**

3.2.3 Utilities, Communications and Social Services

With the implementation of projects for the improvement of villages themselves, improvement of utilities, communications and social services will be continued. The aim will be to improve further residential conditions, to increase accessibility to the towns and major rural centres and to provide improved social services.

As regards domestic water supplies, a higher target has been set and the programme will be stepped up to cover as many villages as possible. For more details on the targets of the Third Plan in this area reference is invited to the Chapter on Water Resources. The rural electrification programme will be continued and so will the programme for the provision of public telephone services in villages. It is anticipated that during the Plan period an additional 63 villages will be provided with public telephones.

Rural areas will also benefit from improved postal services, the expanded road development programme and the introduction of improved road standards. Increased emphasis will be given to the improvement and asphalting of village access roads. Further reference to the question of roads and communications in general is made in the Chapter on Transport and Communication.

Within the overall educational policy, special attention will be given to the problems of rural areas. Apart from increased cultural activities, the emphasis will be on raising standards especially in rural primary schools. In this connection, the Ministry of Education will promote the creation of more three-teacher schools. Rural health services will be improved with the establishment of small hospitals at Morphou and Polis, more mobile dental units will be added and within the context of the social welfare programme studies of particular problems in rural areas will be undertaken. Other measures and programmes of a social nature include the preservation of the environment and the promotion of environmental hygienic conditions, the preservation of the village character and architecture, the improvement of housing conditions, etc.

PART VI

The Planning and Administrative Set-up

THE PLANNING AND ADMINISTRATIVE SET-UP

1. The Machinery of Planning

The structure and organization of the Planning Machinery and of the Machinery for Plan Co-ordination and Implementaion remain essentially as described in the final Chapter of the Second Plan. During the period of the Second Plan, more qualified staff has been recruited to the Planning Bureau which is now in a better position to undertake more elaborate and refined work on the macro- and micro-economic aspects of planning. Experience during these years has, however, indicated that certain organizational changes are necessary and these are now being examined by the Committee which has been set up to advise on the re-organization of the Civil Service.

2. Administrative Reform

Ever since independence the need was recognized to train and equip the civil service so as to enable it to become a more active contributor to social and economic development. A training and retraining scheme was, therefore, undertaken which was designed to equip the civil service with the skills needed for Government's developmental programmes. But the Second Plan also recognized the need for organizational and structural changes which would modernize the Service, increase efficiency and productivity and at the same time create conditions which would enable recruitment and retention in the Service of the best available talent. During the latter part of the Second Plan, an Advisory Committee was accordingly appointed to study and make recommendations on the required organizational and structural changes.

The three major areas to be covered were :—

(*a*) *Machinery of Government :* i.e. the allocation of functions among Ministries, Departments, etc., and broad matters affecting the execution of Government policy.

(*b*) *Organization and Methods :* i.e. the internal organization and allocation of work, methods, procedures, office layout and equipment, forms design, etc., of individual Ministries and Departments ; and

(*c*) *Personnel Administration :* i.e. public service structure, recruitment, selection, staff evaluation, training, promotion, incentives, grievances, discipline, working conditions, staff morale, etc.

In so far as item (*a*) is concerned the Committee has already prepared its report. It is expected that the Committee's suggestions will result in the evolution of a rational organizational structure in Ministries and Government Departments ; that they will facilitate and improve planning, co-ordination and control ; that they will enable a greater degree of delegation of authority on the part of the Senior Civil Servants thus speeding up the decision-making process ; that they will enhance the efficiency of the service in general and will allow better and more prompt service to be offered to the public at large.

Regarding item (*b*), an O & M Unit has already been established which has carried out studies on improving methods and procedures of work in Government Departments. As of to-day, studies have been carried out and reports prepared in respect of the Department of Lands and Surveys, the District Offices, the Migration and Aliens Office, the Motor Car Registry, etc. Other Departments are also currently being studied, but O & M is a continuous process and will be continued on a permanent basis. A number of recommendations made in respect of services already studied have been adopted and implemented.

A report on item (*c*) has also been drafted and consultations with the Staff Association are expected to begin shortly. Staff inspection has started on a moderate scale.

It is hoped that with the organizational and structural changes envisaged it will be possible to improve efficiency and to assist in harnessing the human qualities needed for the implementation of an ambitious development programme.